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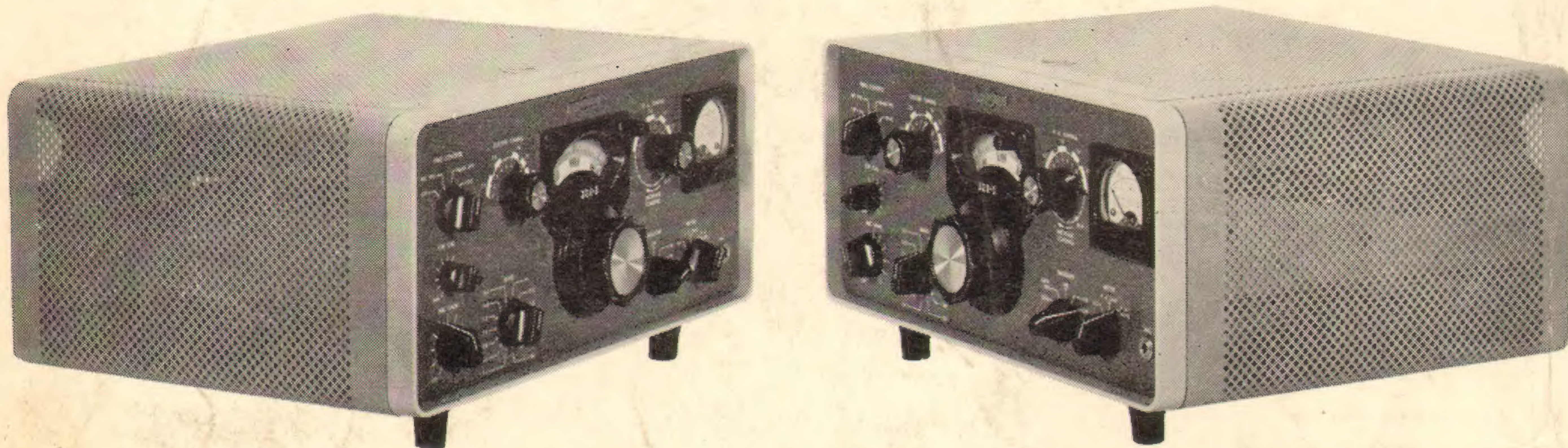
JOHN J. VALESKI  
15 NORMANDALE DRIVE  
ROCHESTER, N.Y.

Known the world over as the CALLBOOK

**RADIO AMATEURS OF THE U.S.A.** (ALL K AND W CALLS)  
**IN THIS ISSUE**  
16,492 NEW LICENSES ISSUED BY FCC SINCE THE SUMMER 1962 CALLBOOK  
OVER 24,000 CHANGES IN PREVIOUS LISTINGS  
OVER 249,000 LICENSED RADIO AMATEURS  
**FALL 1962**  
CURRENT UNTIL THE NEXT  
ISSUE, DECEMBER 1962



JOHN J. VALESKA  
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ROCHESTER, N. Y.



## Switch Hitter

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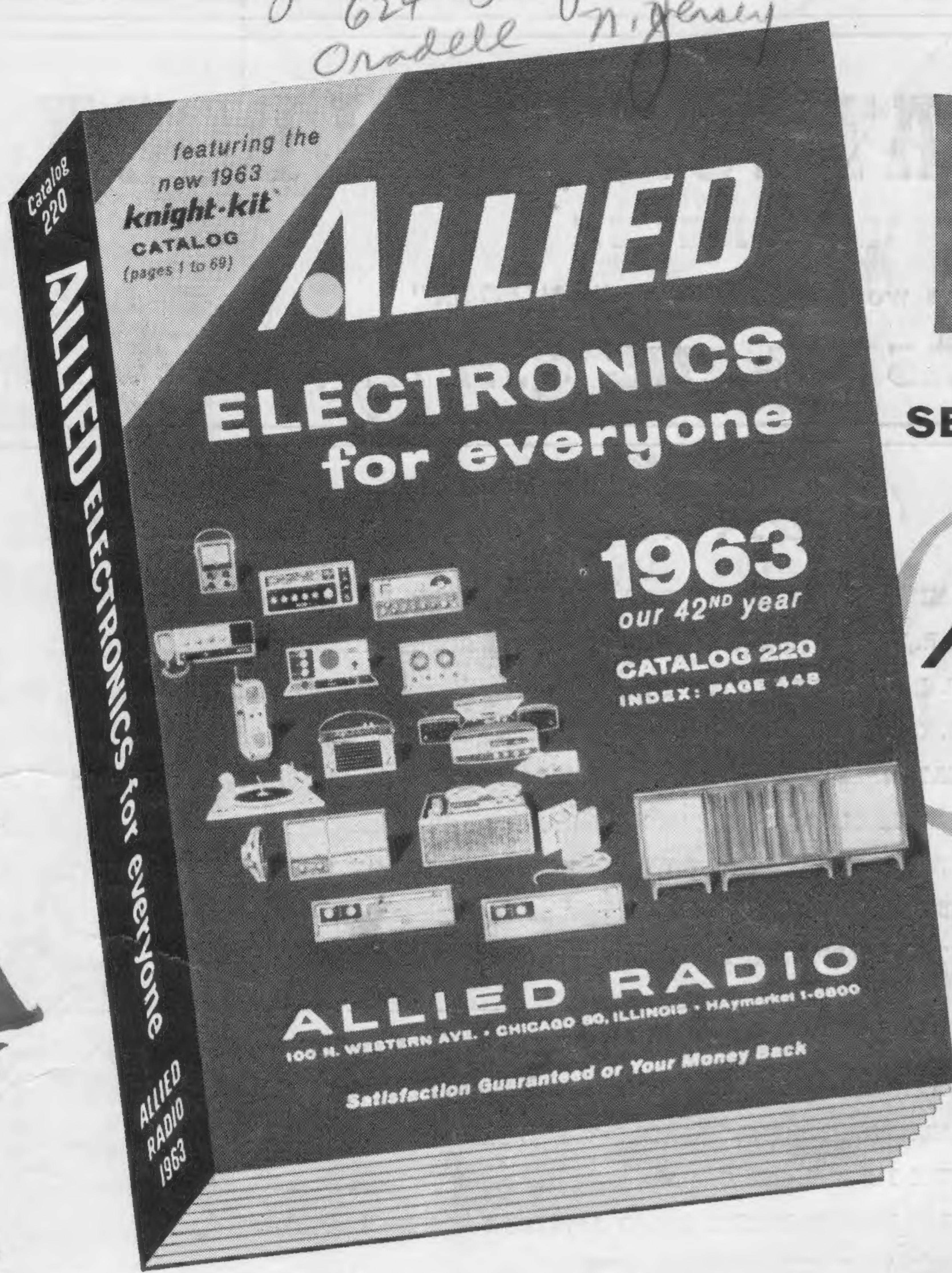
*With Collins' new 32S-3 you can hit either way with the cleanest signal on the air. For SSB or CW, the 32S-3 is the finest transmitter of its kind. The unit has a nominal output of 100 watts and features Mechanical Filter-type sideband generation, permeability-tuned VFO, crystal-controlled HF oscillator, RF inverse feedback and automatic load control. These add up to better linearity, higher average talk power, and protection against flat-topping. □ CW features include a new keying method, spotting control, a keying hardness control, side-tone level adjust, and easier access to patch cords. □ But these are immediate advantages. With the 32S-3 — as with all Collins gear — you get added future value. Check your distributor's trade-ins. Then you'll realize how little it costs to operate the finest.*





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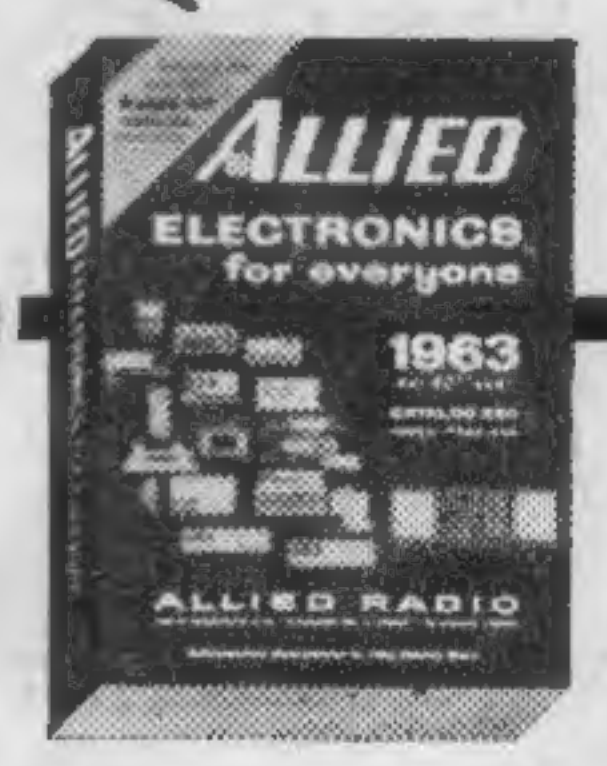
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# RADIO AMATEUR CALLBOOK

## MAGAZINE

known the world over as the "CALLBOOK"

### RADIO AMATEURS OF THE U. S. A. (ALL K AND W CALLS)

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Includes the States of New Jersey and New York.	
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Includes the States of Alabama, Florida, Georgia, Kentucky, North and South Carolina, Tennessee, and Virginia.	
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Includes the States of Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas.	
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Includes the State of California.	
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Includes the States of Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming.	
EIGHTH CALL AREA	389
Includes the States of Michigan, Ohio, and West Virginia.	
NINTH CALL AREA	443
Includes the States of Illinois, Indiana and Wisconsin.	
TENTH CALL AREA	495
Includes the States of Colorado, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.	
OTHER K CALLS INCLUDING HAWAII AND ALASKA	545



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# A. R. R. L. COUNTRIES LIST

The ARRL Postwar Countries List is the official standard used in connection with the DX Century Club. To qualify for the DX Century Club Award, an applicant must submit confirmations from at least 100 different countries contacted after November 15, 1945, in accordance with the Postwar DXCC Rules. Copies of the DXCC Rules will be furnished by ARRL on request.

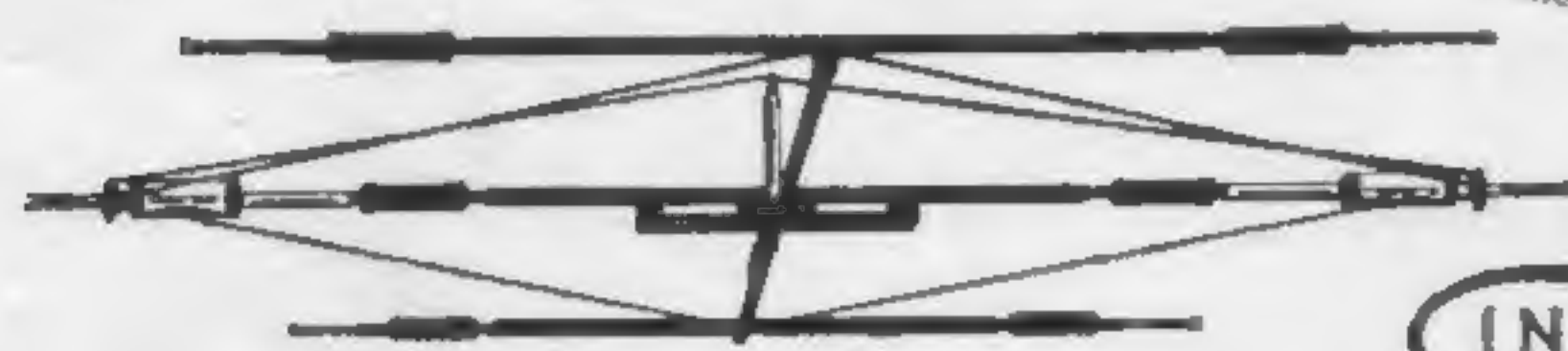
AC3 Sikkim  
AC4 Tibet  
AC5 Bhutan  
AP East Pakistan  
AP West Pakistan  
BV Formosa  
BY China  
C9 Manchuria  
CE Chile  
CE9AA-AM, KC4, LU-Z, VKφ, VP8, ZL5 Antarctica  
CE9 (See VP8)  
CEφA Easter Island  
CEφZ Juan Fernandez Archipelago  
CM, CO Cuba  
CN2 Tangiers  
CN2, CN8, CN9 Morocco  
CP Bolivia  
CR4 Cape Verde Islands  
CR5 Portuguese Guinea  
CR5 Principe, Sao Thome  
CR6 Angola  
CR7 Mozambique  
CR8 Damao, Diu  
CR8 Goa  
CR9 Macao  
CRφ Portuguese Timor  
CT1 Portugal  
CT2 Azores  
CT3 Madeira Islands  
CX Uruguay  
DJ, DL, DM Germany  
DU Philippine Islands  
EA Spain  
EA6 Balearic Islands  
EA8 Canary Islands  
EA9 Ifni  
EA9 Rio de Oro  
EA9 Spanish Morocco  
EAφ Spanish Guinea  
EI Republic of Ireland  
EL Liberia  
EP, EQ Iran  
ET2 Eritrea  
ET3 Ethiopia  
F France  
FA Algeria  
FB8 Amsterdam & St. Paul Islands  
FB8 Comoro Islands  
FB8 Kerquelen Islands  
FB8 Tromelin Island  
FC (Unofficial) Corsica  
FF8 French West Africa  
FG7 Guadeloupe  
FI8 French Indo-China  
FK8 New Caledonia  
FL8 French Somaliland  
FM7 Martinique  
FN8 French India  
FO8 Clipperton Island  
FO8 French Oceania  
FP8 St. Pierre & Miquelon Islands  
FQ8 French Equatorial Africa  
FR7 Reunion Island  
FS7 Saint Martin  
FU8, YJ1 New Hebrides  
FW8 Wallis & Futuna Islands  
FY7 French Guiana & Inini  
G England  
GC Channel Islands  
GD Isle of Man  
GI Northern Ireland  
GM Scotland  
GW Wales  
HA Hungary  
HB Switzerland  
HC Ecuador  
HC8 Galapagos Islands  
HE Liechtenstein  
HH Haiti  
HI Dominican Republic  
HK Colombia  
HKφ Bajo Nuevo  
HKφ Malpelo Island  
HKφ San Andres and Providencia  
HL9, HM Korea  
HP Panama  
HR Honduras  
HS Thailand  
HV Vatican City  
HZ Saudi Arabia  
II, IT1 Italy  
II Trieste  
IS Italian Somaliland  
IS1 Sardinia  
JA, KA Japan  
JT1 Mongolia  
JY Jordan  
JZφ Netherlands New Guinea  
K, W United States of America  
KAφ, KG61 Bonin & Volcano Islands  
KB6 Baker, Howland & American Phoenix Islands  
KC4 (See CE9)  
KC4 Navassa Island  
KC6 Eastern Caroline Islands  
KC6 Western Caroline Islands  
KG1 (See OX)  
KG4 Guantanamo Bay  
KG6 Marcus Island  
KG6 Mariana Islands  
KG61 (See KAφ)  
KH6 Hawaiian Islands  
KH6 Kure Island

KJ6 Johnston Island  
KL7 Alaska  
KM6 Midway Islands  
KP4 Puerto Rico  
KP6 Palmyra Group, Jarvis Island  
KR6 Ryukyu Islands  
KS4 Serrana Bank & Roncador Cay  
KS4 Swan Islands  
KS6 American Samoa  
KV4 Virgin Islands  
KW6 Wake Island  
KX6 Marshall Islands  
KZ5 Canal Zone  
LA Jan Mayen  
LA Norway  
LA Svalbard  
LU Argentina  
LU-Z (See CE9)  
LX Luxembourg  
LZ Bulgaria  
M1 San Marino  
MP4 Bahrain  
MP4 Qatar  
MP4 Trucial Oman  
OA Peru  
OD5 Lebanon  
OE Austria  
OH Finland  
OHφ Aland Islands  
OK Czechoslovakia  
ON4 Belgium  
OX, KG1 Greenland  
OY Faeroes  
OZ Denmark  
PAφ, PII Netherlands  
PJ Netherlands West Indies  
PJ2M Sint Maarten  
PK1,2,3 Java  
PK4 Sumatra  
PK5 Netherlands Borneo  
PK6 Celebes & Molucca Is.  
PX Andorra  
PY Brazil  
PYφ Fernando de Noronha  
PYφ Trindade & Martim Vaz Islands  
PZ1 Netherlands Guiana  
SL, SM Sweden  
SP Poland  
ST2 Sudan  
SU Egypt  
SV Crete  
SV Dodecanese  
SV Greece  
TA Turkey  
TF Iceland  
TG Guatemala  
TI Costa Rica  
TI9 Cocos Island  
TJ Camerouns  
TL Central African Rep.  
TN Congo Rep.  
TR Gabon Rep.  
TT Chad Rep.  
TU Ivory Coast  
TY Dahomey Rep.  
TZ Mali Rep.  
UA1-6, UN1 European Russian  
UA1 Socialist Federated Soviet Republic  
UA2 Franz Josef Land  
UA9, φ Kaliningradsk  
UA9, φ Asiatic Russian S.F.S.R.  
UB5 Ukraine  
UC2 White Russian Soviet Socialist Republic  
UD6 Azerbaijan  
UE6 Georgia  
UG6 Armenia  
UH8 Turkoman  
UI8 Uzbek  
UJ8 Tadzhik  
UL7 Kazakh  
UM8 Kirghiz  
UN1 Karelo-Finnish Rep.  
UO5 Moldavia  
UP2 Lithuania  
UO2 Latvia  
UR2 Estonia  
VE, VO Canada  
VK Australia (including Tasmania)  
VK Lord Howe Island  
VK Willis Islands  
VK9 Christmas Island  
VK9 Cocos Islands  
VK9 Nauru Island  
VK9 Norfolk Island  
VK9 Papua Territory  
VK9 Territory of New Guinea  
VKφ (See CE9)  
VKφ Heard Island  
VKφ Macquarie Island  
VP1 British Honduras  
VP2 Anguilla  
VP2 Antigua, Barbuda  
VP2 British Virgin Islands  
VP2 Dominica  
VP2 Grenada & Dependencies  
VP2 Montserrat  
VP2 St. Kitts, Nevis  
VP2 St. Lucia  
VP2 St. Vincent & Dependencies  
VP3 British Guiana  
VP4 Trinidad & Tobago  
VP5 Cayman Islands

VP5 Jamaica  
VP5 Turks & Caicos Islands  
VP6 Barbados  
VP7 Bahama Islands  
VP8 (See CE9)  
VP8 Falkland Islands  
VP8, LU-Z South Georgia Islands  
VP8, LU-Z South Orkney Islands  
VP8, LU-Z South Sandwich Islands  
VP8, LU-Z, CE9AN-AZ South Shetland Islands  
VP9 Bermuda Islands  
VQ1 Zanzibar  
VQ2 Northern Rhodesia  
VQ3 Tanganyika Territory  
VQ4 Kenya  
VQ5 Uganda  
VQ6 British Somaliland  
VQ8 Cargadas Carajos  
VQ8 Chagos Islands  
VQ8 Mauritius  
VQ8 Rodriguez Island  
VQ9 Seychelles  
VR1 British Phoenix Islands  
VR1 Gilbert & Ellice Islands & Ocean Island  
VR2 Fiji Islands  
VR3 Fanning & Christmas Islands  
VR4 Solomon Islands  
VR5 Tonga Islands  
VR6 Pitcairn Island  
VS1 Singapore  
VS4 Sarawak  
VS5 Brunei  
VS6 Hong Kong  
VS9 Aden & Socotra  
VS9 Karaman Is.  
VS9 Maldives Islands  
VS9 Sultanate of Oman  
VU Andaman and Nicobar Islands  
VU India  
VU Laccadive Islands  
XE, XF Mexico  
XE4 Revilla Gigedo  
XT Voltaic Rep.  
XW8 Laos  
XZ2 Burma  
YA Afghanistan  
YI Iraq  
YJ (See FU8)  
YK Syria  
YN, YNφ Nicaragua  
YO Roumania  
YS Salvador  
YU Yugoslavia  
YV Venezuela  
YVφ Aves Island  
ZA Albania  
ZB1 Malta  
ZB2 Gibraltar  
ZC4 Cyprus  
ZC5 British North Borneo  
ZC6 Palestine  
ZD1 Sierra Leone  
ZD3 Gambia  
ZD4 Gold Coast, Togoland  
ZD6 Nyasaland  
ZD7 St. Helena  
ZD8 Ascension Island  
ZD9 Tristan da Cunha & Gough Island  
ZE Southern Rhodesia  
ZK1 Cook Islands  
ZK1 Manihiki Islands  
ZK2 Niue  
ZL Auckland & Campbell Islands  
ZL Chatham Islands  
ZL Kermadec Islands  
ZL New Zealand  
ZL5 (See CE9)  
ZM6 British Samoa  
ZM7 Tokelaus  
ZP Paraguay  
ZS1, 2, 4, 5, 6 Union of South Africa  
ZS2 Prince Edward & Marion Islands  
ZS3 Southwest Africa  
ZS7 Swaziland  
ZS8 Basutoland  
ZS9 Bechuanaland  
3A Monaco  
3V8 Tunisia  
4S7 Ceylon  
4W1 Yemen  
4X4 Israel  
5A Libya  
5N2 Nigeria  
5R8 Malagasy Republic  
5T Mauritania  
5U7 Niger Republic  
5V Togo Republic  
6O1,2 Somali Republic  
6W8 Senegal Republic  
7G1 Republic of Guinea  
9G1 Ghana  
9K2 Kuwait  
9K3 Kuwait/Saudi Arabia Neutral Zone  
9M2 Malaya  
9N1 Nepal  
9Q5, OQ5, φ Republic of Congo  
9S4 Saar  
9U5 Ruanda-Urundi  
Aldabra Islands  
Cambodia



**Now** → Operate 10, 15, 20 & 40 Meters..  
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Planned Budget!



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Mosley TA-31 is an excellent beginning to your budget planned antenna system. Operates on 10, 15 & 20 meters, as a rotatable dipole, giving excellent performance over full band width.

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Mosley TA-32 Rated to 1KW. Amateur Net \$69.50  
Mosley TA-32 Jr. Rated to 300 Watts. Amateur Net \$49.50

Mosley TA-32/33 Conversion Kit adds a third element to the Mosley TA-32 converting to the "World Famous" Mosley TA-33, 10, 15 & 20 meter beam. Contains director element, 7' boom, boom splice and all necessary hardware.

3 Mosley TA-32/33 Rated to 1KW. Amateur Net \$30.25  
Mosley TA-32/33 Jr. Rated to 300 Watts. Amateur Net \$25.85  
Mosley TA-33 Rated to 1KW. Amateur Net \$99.75  
Mosley TA-33 Jr. Rated to 300 Watts. Amateur Net \$69.50

Mosley TA-40K adds "Forty Meters" to any of the models rated to 1KW listed above. Contains radiator traps and all necessary hardware. Mosley TA-40K and Mosley TA-33 can be ordered as a complete antenna package, Mosley TA-3340. When added, Mosley TA-40K does not effect the characteristics of the primary antenna and operates as a 1/2 wave rotatable dipole on 40 meters. Rated to 1KW.

Mosley TA-40K 40 meter adapter Amateur Net \$39.95  
Mosley TA-3340 Amateur Net \$139.20

## [Dipole Connector DPC-1]

Mosley DPC-1 Dipole Connector is an excellent companion to all dipole antennas. Molded of durable Cycloc plastic. Weatherproof. Amateur Net \$1.49

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Receiver

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RECEIVER WITH DOUBLE CONVERSION AND  
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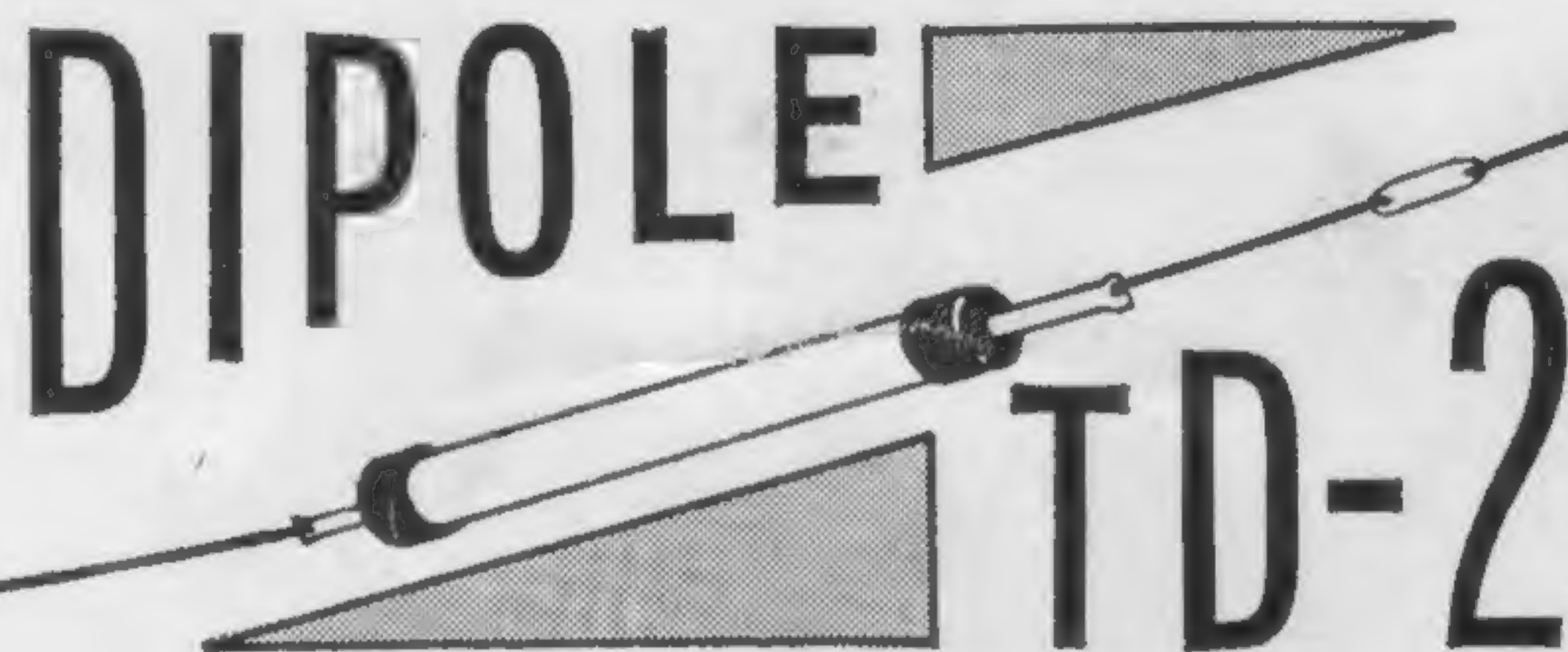
1ST RECEIVER WITH 5 DUAL-PURPOSE TUBES  
OF ONE TYPE AND 4 SEMI-CONDUCTOR DIODES  
WHICH PERFORM ALL FUNCTIONS USUALLY  
REQUIRING 12 OR MORE TUBE SECTIONS.

1ST LOW PRICED RECEIVER WITH SELECTIV-  
ITY, SENSITIVITY & STABILITY THAT EQUALS  
RECEIVERS SELLING FOR \$100.00 OR MORE  
HIGHER.

Mosley CM-1 Receiver less speaker . . . .  
. . . . Amateur Net \$182.70

Mosley CMS-1 Matching Speaker . . . .  
. . . . Amateur Net \$16.95

Slightly higher west of Rockies and outside U.S.A.



Mosley TD-2, Trap Dipole, is an ideal antenna for 40 & 80 meters where a bi-directional pattern is desired. Supplied with famous Mosley "senior" trap assemblies, #14 copperweld wire, heavy duty ceramic insulators and Mosley DPC-1 Heavy Duty Connector. Overall length 114' 11". Weighs just 7 lbs. Amateur Net \$37.54

## MOSLEY VERTICALS

Mosley has a complete line of high performance verticals to fit every installation need. Compact for minimum wind resistance, pretuned and completely rustproof for years of satisfactory operation.

Mosley V-3, 10, 15 and 20 meter vertical, rated to 1KW. Amateur Net \$22.95

Mosley V-4-6, 10, 15, 20 and 40 meter vertical, rated to 1KW. Amateur Net \$27.95

Mosley V-4-8, 40 and 80 meter vertical, rated to 1KW. Amateur Net \$85.00

Mosley V-5, 10, 15, 20, 40 and 80 meter vertical, rated to 1KW. Amateur Net \$118.50

## Mosley Lo/Ten Coaxial Cable

- Light Weight!
- Higher Tensile Strength!
- 30 % Lower Attenuation!
- 20-Year Life Expectancy!
- Suitable for direct burial!

Mosley Type Similar To  
MT 4-50 \_\_\_\_\_ RG-8/U  
MT 5-50 \_\_\_\_\_ RG-58/U  
MT10-50 \_\_\_\_\_ RG-17/U



Prices Subject To Change Without Notice!



# INTERNATIONAL RADIO AMATEUR PREFIXES

The following prefixes are listed in alphabetical order for convenience in locating the country when DX calls are heard.

AC3 SIKKIM  
AC4 TIBET  
AC5 BHUTAN  
AP PAKISTAN  
BV FORMOSA  
BY, (C) CHINA  
C9 MANCHURIA  
CE CHILE  
CEφA EASTER ISLAND  
CEφZ JUAN FERNANDEZ IS.  
CM-CO CUBA  
CN MOROCCO  
CN9 MOROCCO (Zona Norte)  
CP BOLIVIA  
CR4 CAPE VERDE ISLANDS  
CR5 PORTUGUESE GUINEA  
CR6 ANGOLA  
CR7 MOZAMBIQUE  
CR8 GOA  
CR9 MACAO  
CR10 TIMOR ISLAND (Port.)  
CT1 PORTUGAL  
CT2 AZORES ISLANDS  
CT3 MADEIRA ISLANDS  
CX URUGUAY  
DJ, DL WEST GERMAN FEDERAL REP.  
DM EAST GERMAN DEMOCRATIC REP.  
DU PHILIPPINE ISLANDS  
EA SPAIN  
EA6 BALEARIC ISLANDS  
EA8 CANARY ISLANDS  
EA9 SPANISH SAHARA, IFNI, RIO DE ORO  
EAφ SPANISH GUINEA, RIO MUNI  
EI IRELAND  
EL LIBERIA  
EP, EQ IRAN  
ET2 ERITREA  
ET3 ETHIOPIA  
F FRANCE  
FA ALGERIA  
FB8 AUSTRAL and ANTARCTIC FRENCH LANDS,  
Amsterdam, Crozet, St. Paul, Kerguelen Is.  
FC CORSICA  
FD8 TOGO  
FE8 CAMEROUN  
FG7 GUADELOUPE  
FH8 COMORO ISLANDS  
FK8 NEW CALEDONIA  
FL8 FRENCH SOMALILAND  
FM7 MARTINIQUE  
FO8 FRENCH OCEANIA, CLIPPERTON IS.  
FP8 MIQUELON & ST. PIERRE IS.  
FR7 REUNION ISLAND  
FS7 SAINT MARTIN  
FU8 NEW HEBRIDES  
FW8 WALLIS & FUTUNA ISLANDS  
FY7 FRENCH GUIANA  
G ENGLAND  
GC CHANNEL ISLANDS  
GD ISLE OF MAN  
GI NORTHERN IRELAND  
GM SCOTLAND  
GW WALES  
HA HUNGARY  
HB SWITZERLAND  
HC ECUADOR  
HC8 GALAPAGOS ISLANDS  
HE9L LIECHTENSTEIN  
HH HAITI  
HI DOMINICAN REPUBLIC  
HK COLOMBIA  
HKφ SAN ANDRES & PROVIDENCIA  
HM, HL9 KOREA  
HP PANAMA  
HR HONDURAS  
HS THAILAND  
HV VATICAN CITY  
HZ SAUDI ARABIA  
I ITALY  
IS SARDINIA  
IT SICILY  
JA JAPAN  
JT1 MONGOLIA  
JY JORDAN  
JZφ NETHERLANDS NEW GUINEA  
K UNITED STATES  
KA U. S. PERSONNEL IN JAPAN  
KB6 BAKER, CANTON, ENDERBURY,  
HOWLAND & PHOENIX ISLANDS  
KC4 NAVASSA IS.

KC4US ANTARCTICA  
KC6 CAROLINE ISLANDS  
KG1 U. S. PERSONNEL IN GREENLAND  
KG4 GUANTANAMO BAY, CUBA  
KG6 MARIANAS ISLANDS (Guam)  
KG6I VOLCANO ISLANDS  
KG6S SAIPAN ISLAND  
KG6T TINIAN ISLAND  
KH6 HAWAIIAN ISLANDS  
KJ6 JOHNSTON ISLAND  
KL7 ALASKA  
KM6 MIDWAY ISLAND  
KP4 PUERTO RICO  
KP6 PALMYRA & JARVIS ISLANDS  
KR6, KR8 RYUKYU IS. (Okinawa)  
KS4 SWAN ISLAND  
KS4B SERRANA BANK & RONCADOR CAY  
KS6 U. S. SAMOA  
KV4 VIRGIN ISLANDS  
KW6 WAKE ISLAND  
KX6 MARSHALL ISLANDS  
KZ5 CANAL ZONE  
LA NORWAY, SVALBARD, JAN MAYEN IS.  
LU ARGENTINA  
LX LUXEMBOURG  
LZ BULGARIA  
M1 SAN MARINO  
MP4 BAHREIN IS., DAS IS., MUSCAT &  
OMAN, QATAR, TRUCIAL OMAN  
OA PERU  
OD5 LEBANON  
OE AUSTRIA  
OH FINLAND  
OHφ ALAND ISLANDS  
OK CZECHOSLOVAKIA  
ON BELGIUM  
OX GREENLAND  
OY FAEROES IS.  
OZ DENMARK  
PA, PI NETHERLANDS  
PJ NETHERLANDS ANTILLES  
PJ2M SINT MAARTEN  
PK INDONESIA  
PX ANDORRA  
PY BRAZIL  
PYφ TRINDADE & MARTIM VAZ IS. &  
FERNANDO DE NORONHA IS.  
PZ SURINAM (Netherlands Guiana)  
SL, SM SWEDEN  
SP POLAND  
ST SUDAN  
SU EGYPT  
SV CRETE & GREECE  
SV5 DODECANESE ISLANDS  
TA TURKEY  
TF ICELAND  
TG GUATEMALA  
TI COSTA RICA  
TI9 COCOS ISLAND  
TL8 CENTRAL AFRICAN REP.  
TN8 REPUBLIC OF CONGO  
TR8 GABON REPUBLIC  
TT8 TCHAD REPUBLIC  
TU2 IVORY COAST  
TY2 DAHOMEY REPUBLIC  
TZ MALI REPUBLIC  
UA1-3-4-6 EUROPEAN RUSSIAN SOCIALIST  
FEDERATED SOVIET REPUBLIC  
UA9-φ ASIATIC RUSSIAN S. F. S. R.  
UB5 UKRAINE  
UC2 WHITE RUSSIAN S.S.R.  
UD6 AZERBAIJAN  
UF6 GEORGIA  
UG6 ARMENIA  
UH8 TURKMEN  
UI8 UZBEK  
UI8 TADZHIK  
UL7 KAZAKH  
UM8 KIRGHIZ  
UN1 KARELO-FINNISH REPUBLIC  
UO5 MOLDAVIA  
UP LITHUANIA  
UQ LATVIA  
UR ESTONIA  
VE CANADA  
VK AUSTRALIA  
VK2 LORD HOWE ISLAND  
VK7 TASMANIA  
VK9 NEW GUINEA, PAPUA, NORFOLK,  
NAURU, CHRISTMAS & COCOS-KEELING IS.  
VKφ ANTARCTICA, HEARD & MACQUARIE IS.  
VO1 NEWFOUNDLAND

VO2 LABRADOR  
VP1 BRITISH HONDURAS  
VP2 FEDERATION OF BRITISH TERRITORIES  
IN THE CARIBBEAN  
VP3 BRITISH GUIANA  
VP4 TRINIDAD & TOBAGO IS.  
VP5 JAMAICA, CAYMAN, TURKS  
& CAICOS IS.  
VP6 BARBADOS  
VP7 BAHAMA ISLANDS  
VP8 FALKLAND ISLANDS  
South Georgia, South Orkney, South  
Sandwich and South Shetland Is.  
VP9 BERMUDA ISLANDS  
VQ1 ZANZIBAR  
VQ2 NORTHERN RHODESIA  
VQ4 KENYA  
VQ5 UGANDA  
VQ8 CHAGOS, MAURITIUS & RODRIGUEZ IS.  
VQ9 SEYCHELLES  
VR1 GILBERT, ELLICE & OCEAN ISLANDS  
VR2 FIJI ISLANDS  
VR3 LINE ISLANDS  
VR4 SOLOMON ISLANDS  
VR5 TONGA (Friendly) ISLAND  
VR6 PITCAIRN ISLAND  
VS1 SINGAPORE  
VS4 SARAWAK  
VS5 BRUNEI  
VS6 HONG KONG  
VS9 ADEN, SOCOTRA, KAMARAN &  
MALDIVE IS.  
VU INDIA  
VU4 LACCADIVE ISLANDS  
VU5 ANDAMAN & NICOBAR IS.  
W UNITED STATES  
XE MEXICO  
XE4 REVILLA GIGEDO IS.  
XT2 Rep. of UPPER VOLTA  
XU CAMBODIA  
XW8 LAOS  
XZ BURMA  
YA AFGHANISTAN  
YI IRAQ  
YJ NEW HEBRIDES  
YK SYRIA  
YN NICARAGUA  
YO RUMANIA  
YS EL SALVADOR  
YT, YU YUGOSLAVIA  
YV VENEZUELA  
ZA ALBANIA  
ZB1 MALTA  
ZB2 GIBRALTAR  
ZC4 CYPRUS  
ZC5 BRITISH NORTH BORNEO  
ZD1 SIERRA LEONE  
ZD3 GAMBIA  
ZD6 NYASALAND  
ZD7 SAINT HELENA  
ZD8 ASCENSION ISLAND  
ZD9 TRISTAN DA CUNHA & GOUGH ISLANDS  
ZE SOUTHERN RHODESIA  
ZK1 COOK ISLANDS  
ZK2 NIUE  
ZL NEW ZEALAND  
ZL1 KERMADEC  
ZM WESTERN SAMOA  
ZP PARAGUAY  
ZS Rep. of SOUTH AFRICA  
ZS2 PRINCE EDWARD & MARION IS.  
ZS3 SOUTHWEST AFRICA  
ZS7 SWAZILAND  
ZS8 BASUTOLAND  
ZS9 BECHUANALAND  
3A2 MONACO  
3V8 TUNISIA  
3W8 VIETNAM  
4S7 CEYLON  
4W1 YEMEN  
4X4 ISRAEL  
5A LIBYA  
5H3 TANGANYIKA  
5N2 NIGERIA  
5R8 MALAGASY REP. (Madagascar),  
Tromelin Is.  
5T5 MAURITANIA  
5U7 NIGER  
6O SOMALI REPUBLIC  
6W8 SENEGAL  
7G1 REPUBLIC OF GUINEA  
9G1 GHANA  
9K2 KUWAIT  
9M2 FEDERATION OF MALAYA  
9N1 NEPAL  
9Q5 REPUBLIC OF THE CONGO  
9U5 RUANDA-URUNDI



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SX140	12.00	6.25	124.95
S108	13.00	7.00	139.95
SX110	16.00	8.50	169.95
SX111	27.00	14.00	279.50
SX100	32.00	16.00	325.00
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SX101A	44.00	22.00	445.00
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# PREFIXES—BY COUNTRIES

The following countries listed in alphabetical order by country show international radio amateur prefixes. Characters in ( ) designate the continent and zone in which the country is located. Abbreviations are as follows: A—Asia, AF—Africa, E—Europe, NA—North America, O—Oceania, SA—South America.

ADEN (A-21) VS9	GUANTANAMO BAY (NA-8) KG4	REUNION ISLAND (AF-39) FR7
AFGHANISTAN (A-21) YA	GUATEMALA (NA-7) TG	REVILLA GIGEDO (NA-6) XE4
ALAND ISLANDS (E-14) OH	GUIANA, BRITISH (SA-9) VP3	RHODESIA, NORTHERN (AF-36) VQ2
ALASKA (NA-1) KL7	GUIANA, FRENCH (SA-9) FY7	RHODESIA, SOUTHERN (AF-38) ZE
ALBANIA (E-15) ZA	GUINEA, PORTUGUESE (AF-35) CR5	RIO DE ORO (AF-33) EA9
ALGERIA (AF-33) FA	GUINEA, REPUBLIC OF (AF-35) 7G1	RIO MUNI (AF-36) EA
AMSTERDAM & ST. PAUL IS. (AF-39) FB8	HAITI (NA-8) HH	RODRIGUEZ ISLAND (AF-39) VO8
ANDAMAN & NICOBAR IS. (A-26) VU5	HAWAIIAN ISLANDS (O-31) KH6	RUANDA-URUNDI (AF-36) 9U5
ANDORRA (E-14) PX	HEARD ISLAND (O-39) VK	RUMANIA (E-20) YO
ANGOLA (AF-36) CR6	HONDURAS (NA-7) HR	RYUKYU ISLANDS (A-25) KR6, KR8
ANGUILLA (NA-8) VP2	HONG KONG (A-24) VS6	SAINT HELENA (AF-36) ZD7
ANTARCTICA (SA-13) KC4US	HOWLAND ISLAND (O-31) KB6	SAINT KITTS, NEVIS (NA-8) VP2
ANTARCTICA (O-30) VK	HUNGARY (E-15) HA	SAINT LUCIA (NA-8) VP2
ANTIGUA, BARBUDA (NA-8) VP2	ICELAND (E-40) TF	SAINT MARTIN (NA-8) FS7
ARGENTINA (SA-13) LU	IFNI (AF-33) EA9	SAINT PIERRE ISLAND (NA-5) FP8
ASCENSION ISLAND (AF-36) ZD8	INDIA (A-22) VU	SAINT VINCENT IS. (NA-8) VP2
AUSTRALIA (O-29 & 30) VK	INDONESIA (A-28) PK	SAIPAN ISLAND (O-27) KG6S
AUSTRIA (E-15) OE	IRAN (A-21) EP, EQ	SAMOA (U.S.) (O-32) KS6
AZORES ISLANDS (E-14) CT2	IRAQ (A-21) YI	SAMOA, WESTERN (O-32) ZM
BAHAMA ISLANDS (NA-8) VP7	IRELAND (E-14) EI	SAN ANDRES & PROVIDENCIA (NA-7) HK
BAHRAIN ISLANDS (A-21) MP4	ISLE OF MAN (E-14) GD	SAN MARINO (E-15) M1
BAKER ISLAND (O-31) KB6	ISRAEL (A-20) 4X4	SARAWAK (O-28) VS4
BALEARIC ISLANDS (E-14) EA6	ITALY (E-15) I	SARDINIA (E-15) IS
BARBADOS (NA-8) VP6	IVORY COAST (AF-35) TU2	SAUDI ARABIA (A-21) HZ
BASUTOLAND (AF-38) ZS8	JAMAICA (NA-8) VP5	SCOTLAND (E-14) GM
BECHUANALAND (AF-38) ZS9	JAN MAYEN ISLAND (E-40) LA	SENEGAL (AF-35) SW8
BELGIUM (E-14) ON	JAPAN (A-25) JA	SERRANA BANK & RONCADOR CAY (NA-7) KS4B
BERMUDA ISLANDS (NA-5) VP9	JARVIS ISLAND (O-31) KP6	SEYCHELLES (AF-39) VQ9
BHUTAN (A-22) AC5	JAVA (O-28) PK1-2-3	SICILY (E-15) IT
BOLIVIA (SA-10) CP	JOHNSTON ISLAND (O-31) KJ6	SIERRA LEONE (AF-35) ZD1
BORNEO (O-28) PK5	JORDAN (A-20) JY	SIKKIM (A-22) AC3
BRAZIL (SA-11) PY	JUAN FERNANDEZ IS. (SA-12) CEZ	SINGAPORE (A-28) VS1
BRITISH HONDURAS (NA-7) VP1	KAMARAN IS. (A-21) VS9	SINT MAARTEN (NA-8) PJ2M
BRITISH NORTH BORNEO (A-28) ZC5	KENYA (AF-37) VQ4	SOCOTRA ISLAND (AF-37) VS9
BRITISH PHOENIX ISLANDS (O-31) VR1	KERGUELEN ISLANDS (AF-39) FB8	SOLOMON ISLANDS (O-28) VR4
BRITISH TERRITORIES IN THE CARIBBEAN, FED. OF (NA-8) VP2	KERMADEC ISLANDS (O-32) ZL1	SOMALI REPUBLIC (AF-37) 60
BRITISH VIRGIN ISLANDS (NA-8) VP2	KOREA (A-25) HM, HL9	SOMALILAND, French (AF-37) FL8
BRUNEI (O-28) VS5	KUWAIT (A-21) 9K2	SOUTH AFRICA, Rep. of (AF-38) ZS
BULGARIA (E-20) LZ	LABRADOR (NA-2) VO2	SOUTH GEORGIA (SA-13) VP8
BURMA (A-26) XZ	LACCADIVE ISLANDS (A-22) VU4	SOUTH ORKNEY ISLANDS (SA-13) VP8
CAMBODIA (A-26) XU	LAOS (A-26) XW8	SOUTH SANDWICH ISLANDS (SA-13) VP8
CAMEROUN (AF-36) FE8	LEBANON REPUBLIC (A-20) OD5	SOUTH SHETLAND ISLANDS (SA-13) VP8
CANADA (NA-1 to 5) VE, VO	LIBERIA (AF-35) EL	SOUTHWEST AFRICA (AF-38) ZS3
CANAL ZONE (NA-7) KZ5	LIBYA (AF-34) 5A	SOVIET UNION:
CANARY ISLANDS (AF-33) EA8	LIECHTENSTEIN (E-14) HE9L	EUROPEAN RUSSIAN SOCIALIST FEDERATED SOVIET REP. (E-16) UA1, 3, 4, 6
CANTON ISLAND (O-31) KB6	LINE ISLANDS (O-31) VR3	ASIATIC RUSSIAN S.F.S.R. (A-18, 19) UA9, 10
CAPE VERDE ISLANDS (AF-35) CR4	LITTLE AMERICA (SA-13) KC4	UKRAINE (E-16) UB5
CAROLINE ISLANDS (O-27) KC6	LORD HOWE ISLAND (O-30) VK2	WHITE RUSSIAN S.S.R. (E-16) UC2
CAYMAN ISLANDS (NA-8) VP5	LUXEMBOURG (E-14) LX	AZERBAIJAN (E-21) UD6
CELEBES & MOLUCCA ISLANDS (A-28) PK6	MACAO (A-24) CR9	GEORGIA (E-21) UF6
CENTRAL AFRICAN REPUB. (AF-36) TL8	MACQUARIE ISLAND (O-30) VK	ARMENIA (E-21) UG6
CEYLON (A-22) 4S7	MADEIRA ISLANDS (AF-33) CT3	TURKMEN (A-17) UH8
CHAGOS ISLANDS (AF-39) VQ8	MALAGASY REP. (Madagascar) (AF-39) 5R8	UZBEK (A-17) UI8
CHANNEL ISLANDS (E-14) GC	MALAYA, FEDERATION OF (A-28) 9M2	TADZHIK (A-17) UJ8
CHILE (SA-12) CE	MALDIVES ISLANDS (A-22) VS9	KAZAKH (A-17) UL7
CHINA (A-23 & 24) BY	MALI REPUBLIC (AF-35) TZ	KIRGHIZ (A-17) UM8
CHRISTMAS ISLAND (O-29) VK9	MALTA (E-15) ZB1	KARELO-FINNISH REP. (E-16) UN1
CLIPPERTON ISLAND (NA-7) FO8	MANCHURIA (A-24) C9	MOLDAVIA (E-16) UO5
COCOS ISLAND (NA-7) TI9	MARIANAS ISLANDS (Guam) (O-27) KG6	LITHUANIA (E-15) UP
COCOS-KEELING IS. (O-29) VK9	MARSHALL ISLANDS (O-31) KX6	LATVIA (E-15) UQ
COLOMBIA (SA-9) HK	MARTINIQUE (NA-8) FM7	ESTONIA (E-15) UR
COMORO ISLANDS (AF-39) FH8	MAURITANIA (AF-35) 5T5	SPAIN (E-14) EA
CONGO REPUBLIC (AF-36) TN8	MAURITIUS IS. (AF-39) VQ8	SPANISH GUINEA (AF-36) EA
CONGO, REPUBLIC OF THE (AF-36) 9Q5	MEXICO (NA-6) XE	SPANISH SAHARA (A-33) EA9
COOK ISLANDS (O-32) ZK1	MIDWAY ISLAND (O-31) KM6	SUDAN (AF-34) ST
CORSICA (E-15) FC	MIQUELON ISLAND (NA-5) FP8	SUMATRA (A-28) PK4
COSTA RICA (NA-7) TI	MONACO (E-14) 3A2	SURINAM (Netherlands Guiana) (SA-9) PZ
CRETE (E-20) SV	MONGOLIA (A-23) JT1	SVALBARD (E-40) LA
CROZET ISLAND (AF-39) FB8	MONTERRAT (NA-8) VP2	SWAN ISLAND (NA-7) KS4
CUBA (NA-8) CM, CO	MOROCCO (AF-33) CN	SWAZILAND (AF-38) ZS7
CYPRUS (A-20) ZC4	MOROCCO (Zona Norte) (AF-33) CN9	SWEDEN (E-14) SL, SM
CZECHOSLOVAKIA (E-15) OK	MOZAMBIQUE (AF-37) CR7	SWITZERLAND (E-14) HB
DAHOMEY REPUBLIC (AF-35) TY2	MUSCAT & OMAN (A-21) MP4	SYRIA (A-20) YK
DAS ISLAND (A-21) MP4	NAURU ISLAND (O-31) VK9	TANGANYIKA (AF-37) 5H3
DENMARK (E-14) OZ	NAVASSA ISLAND (NA-8) KC4	TASMANIA (O-30) VK7
DOECANESE ISLANDS (E-20) SV5	NEPAL (A-22) 9N1	TCHAD REPUBLIC (AF-36) TT8
DOMINICA (NA-8) VP2	NETHERLANDS (E-14) PA, PI	THAILAND (A-26) HS
DOMINICAN REPUBLIC (NA-8) HI	NETHERLANDS ANTILLES (SA-9) PJ	TIBET (A-23) AC4
EASTER ISLAND (SA-12) CE4A	NETHERLANDS NEW GUINEA (O-28) JZ	TIMOR, Portuguese (O-28) CR10
ECUADOR (SA-10) HC	NEW CALEDONIA (O-32) FK8	TINIAN ISLAND (O-27) KG6T
EGYPT (AF-34) SU	NEWFOUNDLAND (NA-5) VO1	TOGO (AF-35) FD8
EL SALVADOR (NA-7) YS	NEW GUINEA, N.E. (O-28) VK9	TONGA (Friendly) ISLANDS (O-32) VR5
ENDERBURY ISLAND (O-31) KB6	NEW HEBRIDES (O-32) FU8, YJ	TRIESTE (E-15) II
ENGLAND (E-14) G	NEW ZEALAND (O-32) ZL	TRINIDADE & MARTIM VAZ IS. (SA-11) PY
ERITREA (AF-37) ET2	NICARAGUA (NA-7) YN	TRINIDAD & TOBAGO (SA-9) VP4
ETHIOPIA (AF-37) ET3	NIGER (AF-35) 5U7	TRISTAN da CUNHA & GOUGH ISLANDS (AF-38) ZD9
FAEROES ISLANDS (E-14) OY	NIGERIA (AF-35) 5N2	TROMELIN ISLAND (AF-39) FB8
FALKLAND ISLANDS (SA-13) VP8	NIUE (O-32) ZK2	TRUCIAL OMAN (A-21) MP4
FANNING ISLAND (O-31) VR3	NORFOLK ISLAND (O-32) VK9	TUNISIA (AF-33) 3V8
FERNANDO DE NORONHA (SA-11) PY	NORTHERN IRELAND (E-14) GI	TURKEY (A-20) TA
FIJI ISLANDS (O-32) VR2	NORWAY (E-14) LA	TURKS & CAICOS ISLANDS (NA-8) VP5
FINLAND (E-15) OH	NYASALAND (AF-37) ZD6	UGANDA (AF-37) VQ5
FORMOSA (A-24) BV	OKINAWA (A-25) KR6, KR8	UNITED STATES of AMERICA (NA-3, 4, 5) W, K
FRANCE (E-14) F	OMAN (A-21) MP4	UPPER VOLTA, Rep. of (AF-35) XT2
FRENCH OCEANIA (O-32) FO8	PAKISTAN (A-21, 22) AP	URUGUAY (SA-13) CX
GABON REPUBLIC (AF-36) TR8	PALMYRA ISLANDS (O-31) KP6	VATICAN CITY (E-15) HV
GALAPAGOS ISLANDS (SA-10) HC8	PANAMA (NA-7) HP	VENEZUELA (SA-9) YV
GAMBIA (AF-35) ZD3	PAPUA TERRITORY (O-28) VK9	VIETNAM (A-26) 3W8
GERMAN FEDERAL REP., WEST (E-14) DJ, DL	PARAGUAY (SA-11) ZP	VIRGIN ISLANDS (NA-8) KV4
GERMAN DEMOCRATIC REP., EAST (E-14) DM	PERU (SA-10) OA	VOLCANO IS. (O-27) KG6I
GHANA (AF-35) 9G1	PHILIPPINE ISLANDS (O-27) DU	WAKE ISLAND (O-31) KW6
GIBRALTAR (E-14) ZB2	PHOENIX ISLANDS (O-31) KB6	WALES (E-14) GW
GILBERT ISLANDS (O-31) VR1	PITCAIRN ISLAND (O-32) VR6	WALLIS & FUTUNA ISLANDS (O-32) FW8
GOA (A-22) CR8	POLAND (E-15) SP	YEMEN (A-21) 4W1
GREECE (E-20) SV	PORTUGAL (E-14) CT1	YUGOSLAVIA (E-15) YT, YU
GREENLAND (NA-40) OX	PRINCE EDWARD & MARION ISLANDS (AF-38) ZS2	ZANZIBAR (AF-37) VQ1
GUADELOUPE (NA-8) FG7	PUERTO RICO (NA-8) KP4	
GUAM (O-27) KG6	QATAR (A-21) MP4	



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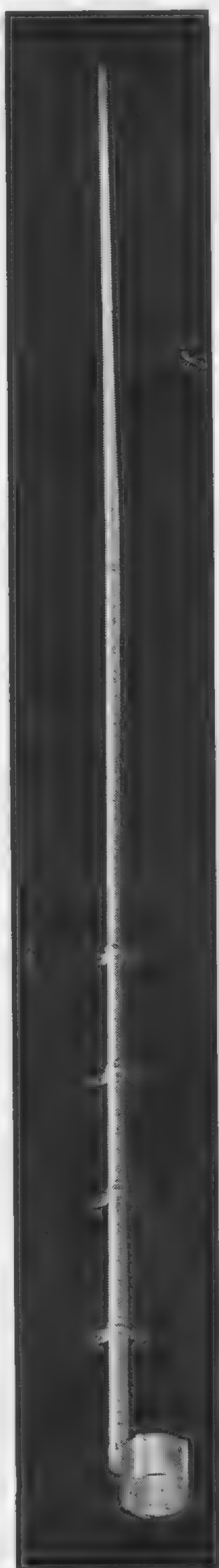
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- Uses one 52 ohm coax line.
- An effective modern antenna, with amazing performance. Your best bet for a lifetime antenna at an economical price. ONLY \$16.95.

73,  
GOTHAM

**YOU COULD WORK WONDERS WITH A GOTHAM VERTICAL ANTENNA!****IS K6INI THE WORLD'S CHAMPION DX OPERATOR?**

Judge for yourself! Read his letter and count the DX he has worked—with only 65 watts and a \$16.95 Gotham V-80 Vertical Antenna.

2405 Bowditch, Berkeley 4, California  
January 31, 1959

Gentlemen:

I just thought I would drop you a line and let you know how pleased I am with your V-80 vertical antenna. I have been using it for almost two years now, and am positively amazed at its performance with my QRP 65 watts input! Let me show you what I mean:

I have worked over 100 countries and have received very fine reports from many DX stations, including 599 reports from every continent except Europe (589)! I have also worked enough stations for my WAC, WAS, WAJAD and ADXC awards, and I am in the process of working for several other awards. And all this with your GOTHAM V-80 vertical antenna!

Frankly, I fail to see how anyone could ask for better performance with such low power, limited space and a limited budget. In my opinion, the V-80 beats them all in its class.

I am enclosing a list of DX countries I have worked to give you an idea of what I have been talking about.

Wishing you the best for 1959, I am

Sincerely yours,

Thomas G. Gabbert, K6INI (Ex-T12TG)

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Airmail Order Today—We Ship Tomorrow

**GOTHAM, DEPT. CB**

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**FILL IN AND SEND TODAY!**



## GREAT CIRCLE BEARINGS IN THE UNITED STATES

ATLANTA, GA.	264	322	47	24	25	301	343	15	86	269	297	320	7	271	310	251	347	145	306	281	281	347	154	345	331	321	234	48	64	48	278	27	318	296	289	308	48	84
BIRMINGHAM, ALA.	82	326	50	31	40	304	356	26	84	268	299	328	17	270	312	246	5	125	314	287	281	10	142	355	338	0	219	52	67	53	278	37	333	298	290	309	83	83
BISMARCK, N. D.	132	137	92	97	115	209	114	105	124	167	205	133	104	198	273	165	119	132	148	150	233	123	135	109	108	131	151	99	111	102	217	106	134	237	249	282	107	119
BOSTON, MASS.	236	241	291	277	247	278	273	267	226	254	275	275	274	262	293	246	263	220	268	253	273	256	207	278	286	249	237	235	219	233	268	258	262	280	280	295	236	217
BUFFALO, N. Y.	208	217	291	92	206	273	264	237	192	241	269	268	261	252	290	231	243	191	258	237	267	231	184	274	286	225	219	118	160	134	261	199	248	276	276	293	159	174
CHARLESTON, W. VA.	208	223	307	61	24	287	309	359	174	251	282	293	345	260	300	238	293	180	279	251	274	270	174	316	311	245	223	66	108	71	269	31	275	286	282	301	80	143
CHEYENNE, WYO.	108	112	26	76	76	91	81	81	103	140	187	83	79	189	319	143	90	113	101	119	241	95	119	76	62	104	128	81	92	83	219	84	98	268	262	303	87	100
CHICAGO, ILL.	161	175	302	82	78	125	272	93	144	221	266	268	80	242	293	210	151	155	245	208	262	157	156	350	308	173	190	91	116	97	254	101	212	274	272	295	106	131
CLEVELAND, OHIO	197	209	297	80	55	179	277	176	240	272	275	310	252	293	228	245	180	261	235	268	226	175	290	296	219	214	95	136	105	262	127	250	278	277	296	124	156	
COLUMBIA, S. C.	268	267	317	41	10	354	299	329	356	270	295	311	350	271	308	256	326	189	300	279	282	320	174	331	323	297	246	39	53	37	279	7	305	295	290	307	33	85
DALLAS, TEXAS	81	82	349	57	49	61	325	36	50	80	319	15	45	266	325	157	47	97	15	61	280	55	112	32	11	65	115	60	71	61	277	55	40	308	291	315	63	80
DENVER, COLORADO	103	107	22	73	72	87	6	75	77	91	134	74	74	189	325	138	84	109	91	112	246	90	116	70	55	98	124	78	88	80	224	80	91	283	267	308	83	96
DES MOINES, IOWA	134	144	318	80	78	105	271	84	87	123	197	262	81	231	297	187	105	135	197	171	257	116	141	69	5	133	165	87	104	91	247	92	137	273	270	296	97	115
DETROIT, MICH.	188	200	295	86	79	164	273	263	129	168	233	268	268	248	291	222	224	174	254	227	265	208	171	282	292	206	207	100	133	109	258	128	238	275	274	294	124	151
EL PASO, TEXAS	77	78	14	58	54	64	8	50	56	76	79	8	42	53	345	98	57	86	48	71	285	62	97	46	33	68	92	61	69	62	290	59	57	335	298	327	64	75
HELENA, MONTANA	112	116	85	84	88	100	133	97	93	108	134	141	105	92	162	136	101	115	115	122	203	105	119	94	91	111	127	89	98	92	180	94	109	179	224	283	95	104
HOUSTON, TEXAS	64	60	348	50	40	49	329	25	39	67	338	325	6	34	285	327	34	84	3	26	288	40	103	22	5	46	86	52	60	53	289	45	24	314	297	319	5	68
INDIANAPOLIS, IND.	166	185	308	72	58	110	281	332	62	143	234	276	290	41	250	298	220	157	267	226	267	168	158	338	316	188	199	80	107	85	261	80	251	281	277	298	94	127
JACKSONVILLE, FLA.	327	309	324	33	9	1	308	339	0	8	286	304	323	355	282	314	273	340	314	300	288	338	163	341	332	326	271	29	34	28	287	8	323	303	295	312	23	39
KANSAS CITY, MO.	120	129	332	72	67	90	288	60	73	111	196	278	15	66	236	306	184	82	126	157	262	95	134	50	9	113	157	78	93	81	253	79	97	282	275	302	85	105
LITTLE ROCK, ARK.	97	104	335	59	48	65	307	26	48	92	243	300	352	41	260	315	208	43	114	338	276	55	128	21	356	71	158	62	76	64	271	56	22	297	286	309	67	89
LOS ANGELES, CALIF.	81	82	41	62	61	70	52	62	65	79	88	57	60	62	100	19	96	67	87	81	70	94	59	52	76	92	65	71	66	95	67	69	35	319	348	68	78	
LOUISVILLE, KY.	166	190	313	66	47	87	287	339	43	137	242	282	301	26	256	302	227	348	156	280	239	271	158	342	322	202	205	71	98	75	266	63	278	285	281	301	82	120
MIAMI, FLORIDA	337	326	329	22	3	355	313	342	356	355	302	310	329	353	291	318	290	342	345	321	315	293	341	342	335	334	298	18	16	15	293	1	330	308	299	315	11	13
MILWAUKEE, WIS.	162	175	297	87	88	132	267	170	107	147	218	261	253	99	239	290	207	157	156	235	204	259	160	157	298	172	188	98	121	103	251	111	203	271	270	293	113	135
MINNEAPOLIS, MINN.	145	154	291	91	96	123	248	125	108	135	193	242	184	105	227	283	186	132	144	189	175	248	137	146	114	148	169	99	116	104	237	110	159	259	261	287	111	127
NASHVILLE, TENN.	140	180	320	59	40	61	295	354	36	114	251	290	318	24	261	307	231	8	142	298	254	275	22	150	353	333	205	63	83	65	271	50	313	291	285	305	68	103
NEW ORLEANS, LA.	50	37	337	46	32	38	318	9	28	60	299	313	347	22	283	321	270	17	86	339	339	288	22	114	7	351	23	46	56	47	287	35	359	308	296	315	47	64
NEW YORK, N. Y.	233	240	296	54	303	251	281	281	280	223	255	278	280	286	262	294	244	269	213	271	253	274	259	202	287	293	251	237	205	229	269	269	266	283	282	297	235	208
NORFOLK, VA.	249	253	306																																			

The above table shows the great circle bearing in degrees, of various metropolitan areas in the United States in relationship to each other. This table should be used from left to right only. To find the great circle bearing between any two of the cities shown, start at the left and follow the horizontal line to the right until you come to the column directly under the name of the city that you desire to beam a radio

signal to. For all practical purposes in the United States, Polaris (the North Star), is due north. To find this star, to calibrate a directional radio beam, look for the first star on a straight line with the two outer stars on the outside edge of the cup of the big dipper. This table was compiled from information furnished by the U. S. Coast and Geodetic Survey. Copyright 1947, Radio Amateur Call Book, Inc.



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Wahiawa, Oahu, Hawaii  
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**"most natural  
sounding  
SSB mike yet"**

We'll let Ken Bryan's (KH6AR) letter to us speak for itself:

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(complete with stand, grip-to-talk switch, 7 ft. highest quality 2 conductor shielded cable.)

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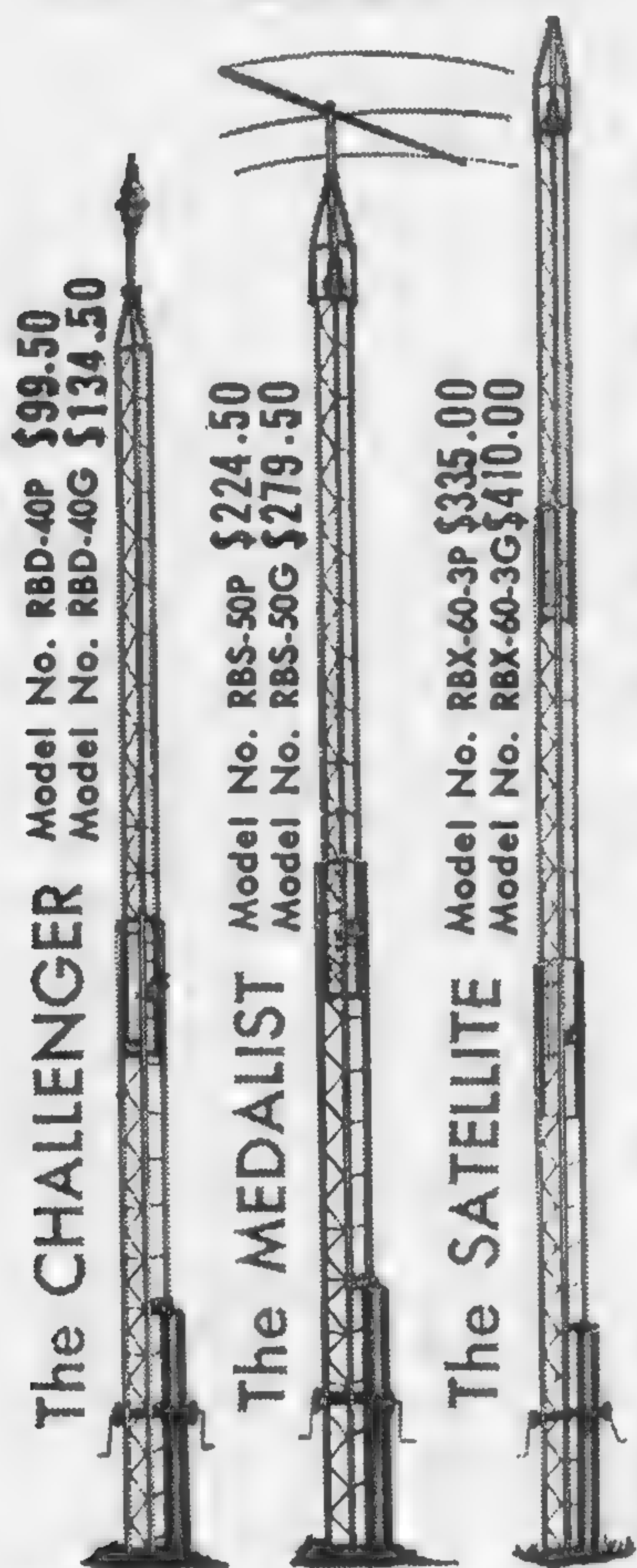
WORLD TIME CONVERSION CHART IN HOURS

Greenwich Meridian Time, London, Eng- land.	Central Europe, Ber- lin, Geneva, Stock- holm, Vienna.	Eastern Europe, Ath- ens, Cape Town, Cairo, Moscow	Arabia, Armenia, Ethi- opia, Madagascar, car.	Mauritius, Persia, Reunion Island.	Central Russia, Bom- bay, India.	Calcutta, Novosi- birsk, Russia, Tibet.	French Indo China, Siam, Sumatra.	Philippine Islands, Perth, Australia.	Central Australia, Tokyo, Japan.	Eastern Australia, Melbourne, Sydney.	New Caledonia.	International Date Line.	Fiji Islands.	Nome, Alaska.	Hawaiian Islands.	Eastern Alaska.	Pacific Standard Time, Los Angeles, Seattle.	Mountain Standard Time, Calgary, Phoenix.	Central Standard Time, Chicago, Costa Rica.	Eastern Standard Time, Montreal, New York, Peru.	Atlantic Standard Time, Argentina, Nova Scotia.	Greenland, Rio de Janeiro, Brazil.	Azores.	Iceland, Canary Islands.
0000	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM
0100	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night
0200	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM
0300	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM
0400	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM
0500	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM
0600	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM
0700	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM
0800	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM
0900	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM
1000	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM
1100	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM
1200	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon
1300	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM
1400	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM
1500	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM
1600	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM
1700	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM
1800	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM
1900	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM
2000	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM
2100	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM
2200	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM
2300	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM

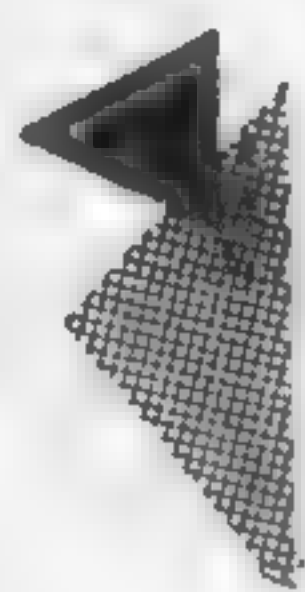
With this chart you can convert standard time in any time zone to GMT or tell what time it is in other parts of the world. To correctly use this chart visualize each horizontal line as a complete circle. From your time zone tracing horizontally to the right (Counter Clockwise) it will be tomorrow when you pass midnight and yesterday when you pass the international date line. To the left (Clockwise) it will be yesterday when you pass midnight and tomorrow when you pass the international date line. There is no change in date when you pass both midnight and the international date line going in one direction. For instance at 8 PM in New York Eastern Standard Time it is 2 AM tomorrow in Berlin, Germany and 11 AM tomorrow in Sydney, Australia. Always trace in the shortest direction from your time zone to find what time it is in any other zone. Copyright 1938 Radio Amateur Call Book, Inc., Chicago, USA.



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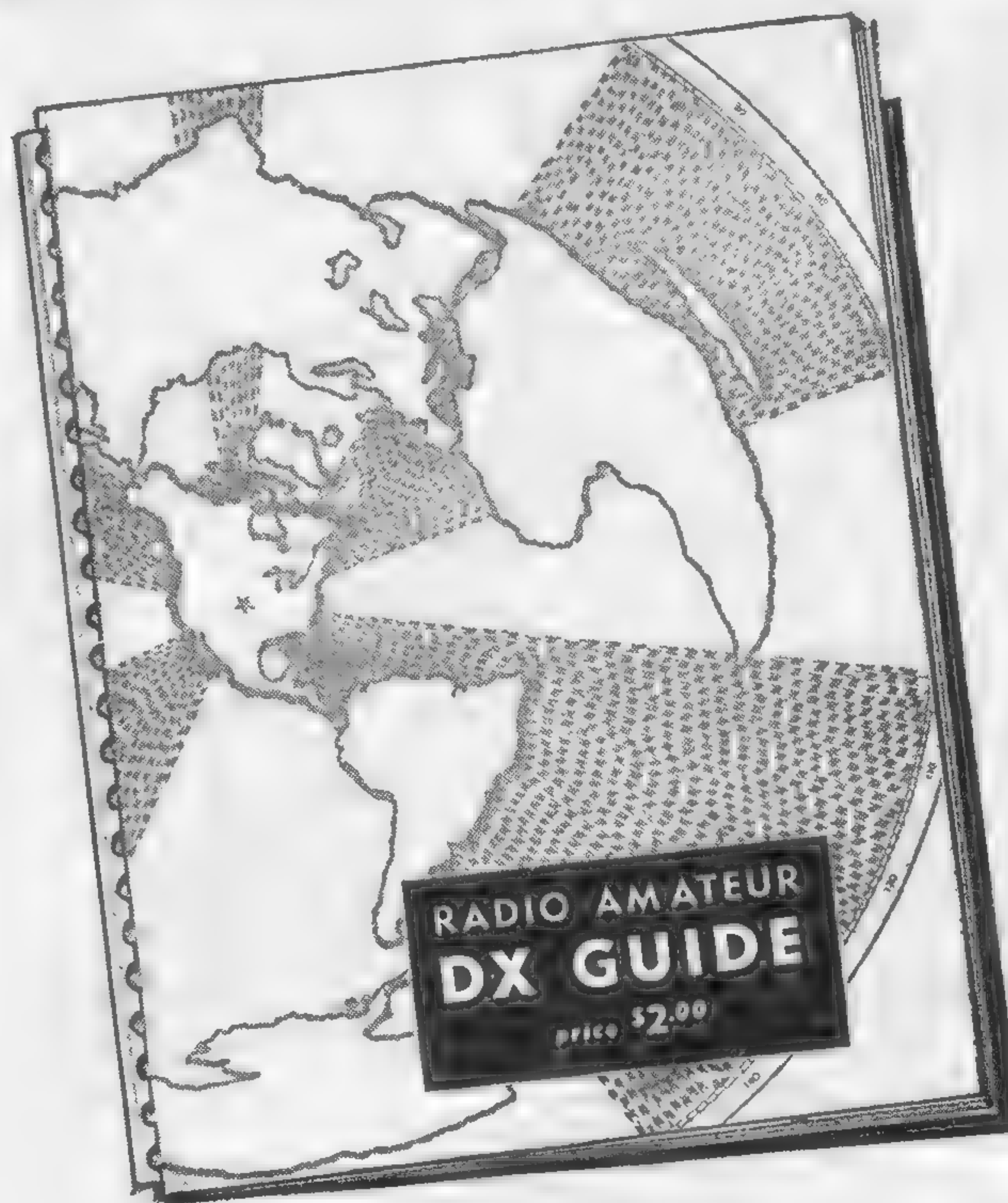
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ATLANTA, GA.	43	325	153	242	160	26	48	45	158	51	114	141	38	198	170	30	280	102	160	170	45	58	329	227	156	32	34	47	42	170	139	51	179	168	336	346	33	254	324	TOKYO, JAPAN	
BIRMINGHAM, ALA.	42	325	151	241	155	23	47	44	156	50	113	137	37	191	158	29	279	101	157	167	44	57	327	221	154	36	33	47	42	165	137	50	173	166	334	342	32	253	323	SYDNEY, AUSTRALIA	
BISMARCK, N. D.	42	315	141	240	143	7	45	43	146	40	97	131	35	162	142	27	261	81	146	154	45	56	317	177	145	84	33	46	39	151	129	46	153	155	325	328	30	256	314	STOCKHOLM, SWEDEN	
BOSTON, MASS.	51	321	167	253	186	36	56	53	169	60	117	172	45	217	210	36	284	105	177	187	53	68	346	235	168	331	40	56	50	191	153	59	205	181	349	7	39	270	335		
BUFFALO, N. Y.	49	320	160	250	172	29	53	51	163	55	112	159	42	203	189	34	279	99	168	178	51	65	338	222	161	54	38	53	47	179	146	56	189	173	342	356	37	266	329	SAN JOSE, COSTA RICA	
CHARLESTON, W. VA.	46	322	156	246	167	28	50	47	160	53	113	151	40	201	183	32	279	101	164	174	48	61	334	224	159	37	36	50	45	175	145	51	181	170	339	351	35	259	327	SANTIAGO, CHILE	
CHEYENNE, WYO.	38	321	138	236	135	11	41	40	143	37	100	122	32	151	127	24	263	84	141	148	41	51	311	166	141	69	30	42	36	143	126	41	144	152	322	321	27	250	312	SAN JOSE, COSTA RICA	
CHICAGO, ILL.	45	320	152	245	158	21	49	47	156	49	108	144	39	186	165	31	274	95	158	167	48	60	328	207	154	66	36	50	44	167	138	51	173	166	335	343	34	260	323	ROME, ITALY	
CLEVELAND, OHIO	47	320	157	247	167	27	52	49	161	53	111	153	41	198	182	33	278	99	165	174	50	63	334	219	159	53	37	52	46	175	143	54	184	171	340	352	36	263	327	RIO DE JANEIRO, BRAZIL	
COLUMBIA, S. C.	44	324	156	243	166	29	49	46	161	53	115	148	39	206	186	31	281	103	164	175	46	59	333	232	159	24	35	48	44	175	142	52	187	171	339	352	34	255	327	QUITO, ECUADOR	
DALLAS, TEXAS	39	326	142	237	138	12	43	41	148	44	110	122	34	161	123	26	274	97	146	154	42	53	317	189	147	48	31	43	38	149	130	45	150	157	326	326	29	249	317	PRAGUE, CZECHOSLOVAKIA	
DENVER, COLORADO	38	323	137	235	133	2	41	39	143	37	101	120	32	149	124	24	264	85	141	147	41	52	312	164	142	66	29	42	35	142	125	42	142	152	321	320	27	249	312	PARIS, FRANCE	
DES MOINES, IOWA	43	320	146	242	149	15	47	44	151	45	105	135	37	173	149	28	270	90	152	160	46	58	323	194	150	68	34	47	41	158	134	48	162	161	330	335	32	256	319	OSLO, NORWAY	
DETROIT, MICH.	47	320	156	247	166	25	51	49	160	52	110	151	41	195	178	32	277	97	163	173	50	63	333	216	159	62	37	52	46	173	142	54	182	169	339	350	35	263	326	MONTREAL, CANADA	
EL PASO, TEXAS	36	329	135	233	125	1	39	37	142	37	108	111	30	136	106	22	270	94	137	142	38	49	308	150	140	52	27	40	34	135	124	41	131	149	319	313	25	245	312	MONTVIDEO, URUGUAY	
HELENA, MONTANA	36	318	133	233	130	355	39	38	138	31	89	119	30	144	124	22	252	71	136	142	39	49	308	154	137	78	28	40	33	138	121	39	138	147	317	316	25	249	307	MEXICO CITY, MEXICO	
HOUSTON, TEXAS	39	328	143	237	137	15	43	41	149	45	113	120	34	162	116	26	277	100	147	154	41	53	317	199	147	41	30	43	38	149	130	46	150	158	327	326	29	247	318	MANILA, PHILIPPINE ISLANDS	
INDIANAPOLIS, IND.	45	321	153	244	160	23	49	47	157	50	110	144	39	190	168	31	276	97	160	169	47	60	329	212	155	54	35	49	43	168	139	52	176	167	336	345	34	259	324	MADRID, SPAIN	
JACKSONVILLE, FLA.	42	326	155	242	163	30	48	44	160	53	117	142	37	209	185	30	283	105	163	173	44	57	331	239	158	20	33	47	42	174	141	51	187	170	338	350	33	251	326	LONDON, ENGLAND	
KANSAS CITY, MO.	42	322	145	240	146	14	45	43	151	45	107	132	36	171	143	28	271	93	151	159	44	56	321	193	149	61	33	46	40	156	133	47	159	160	329	333	31	254	319	LIMA, PERU	
LITTLE ROCK, ARK.	41	325	146	240	147	17	45	43	152	47	111	130	36	175	141	28	275	98	152	160	43	56	322	203	150	47	32	45	40	157	134	48	161	161	330	334	31	252	320	LA PAZ, BOLIVIA	
LOS ANGELES, CALIF.	31	333	127	228	116	347	34	33	135	28	102	104	26	121	100	18	260	84	128	132	34	44	300	126	134	58	24	35	28	124	117	34	119	141	312	303	21	241	306	JOHANNESBURG, SOUTH AFRICA	
LOUISVILLE, KY.	44	322	153	244	160	23	49	46	157	50	111	144	39	191	168	30	277	98	160	169	47	60	329	215	156	47	35	49	43	168	139	51	176	167	336	345	33	257	324	HONOLULU, T. H.	
MIAMI, FLORIDA	41	328	155	240	163	33	47	43	160	54	118	138	37	223	217	30	285	108	163	175	43	56	331	254	158	13	33	46	42	176	140	50	194	171	339	351	32	247	327	HELSENKI, FINLAND	
MILWAUKEE, WIS.	45	319	152	245	158	20	50	47	156	49	107	145	39	185	165	31	273	94	158	167	48	61	328	205	154	72	36	50	44	166	138	52	173	165	335	343	34	261	323	HAVANA, CUBA	
MINNEAPOLIS, MINN.	44	317	147	243	152	15	48	46	152	46	103	139	38	175	154	29	270	90	153	161	47	59	324	193	150	81	35	49	42	160	134	49	164	161	331	337	33	259	319	GUATEMALA CITY, GUATEMALA	
NASHVILLE, TENN.	43	323	151	242	157	23	48	45	156	50	112	140	38	190	162	30	277	99	158	167	46	58	328	216	155	43	34	48	42	166	138	50	174	166	335	343	33	255	324	COPENHAGEN, DENMARK	
NEW ORLEANS, LA.	40	327	147	239	146	21	45	42	153	48	114	127	35	182	133	28	279	102	152	161	43	55	322	220	151	35	32	45	40	158	135	48	163	162	331	334	30	249	321	CARACAS, VENEZUELA	
NEW YORK, N. Y.	49	321	164	251	180	34	54	51	167	58	116	166	43	214	204	35	283	104	173	184	51	66	343	233	165	4	39	54	48	187	150	57	199	177	346	3	38	266	333	CAIRO, EGYPT	
NORFOLK, VA.	46	323	161	247	176	33	51	48	165	56	116	160	41	213	203	33	283	104	170	181	48	62	339	235	163	12	36	51	46	184	147	55	197	175	344	0	36	260	331	BUENOS AIRES, ARGENTINA	
PHILADELPHIA, PA.	48	322	163	249	178	33	53	50	166	57	115	164	42	212	202	34	282	103	172	182	50	65	341	232	164	11	38	53	48	185	149	56	197	176	345	2	37	264	332	BRUSSELS, BELGIUM	
PHOENIX, ARIZONA	34	330	131	231	121	121	354	37	35	138	33	105	108	28	129	104	20	265	89	133	138	36	47	304	137	137	56	26	38	31	130	121	38	126	146	316	308	23	243	309	BERN, SWITZERLAND
PITTSBURGH, PA.	47	321	158	247	170	29	52	49	162	54	113	155	41	203	187	33	279	100	167	176	49	63	336	224	160	41	37	52	46	178	145	55	188	172	341	354	36	262	329	ST. LOUIS, MO.	
ST. LOUIS, MO.	43	322	149	242	153	19	47	45	154	48	109	137	37	181	156	29	274	96	155	164	46	58	325	204	152	55	34	47	42	162	136	49	167	163	332	339	32	256	321	SALT LAKE CITY, UTAH	
SALT LAKE CITY, UTAH	35	325	132	232	127	355	38	36	139	32	96	114	29	138	116	21	258	79	135	141	38	48	307	149	136	67	27	39	32	135	121	38	134	146	317	313	24	247	308	SAN FRANCISCO, CALIF.	
SAN FRANCISCO, CALIF.	30	333	125	226	115	343	32	31	132	24	95	104	24	121	101	16	252	74	126	130	33	42	298	126	131	62	22	33	26	123	115	32	119	139	310	301	19	240	303	SEATTLE, WASHINGTON	
SEATTLE, WASHINGTON	31	321	125	227	120	345	33	32	131	23	79	110	25	131	113	17	240	58	128	133	34	43	300	138	130	75	24	35	27	128	113	32	127	139	309	306	20	243	301	WASHINGTON, D. C.	
WASHINGTON, D. C.	47	322	161	248	175	32	52	49	164	56	115	160	41	210	198	33	282	103	170	180	49	63	339	231	163	20	37	52	47	182	147	55	194	174	343						



## Federal Communications Commission Examination Points

Examinations for commercial and amateur radio operator licenses are conducted at the following F.C.C. field offices on the days designated by the Engineer in Charge of each office. Specific dates should be obtained from the Engineer in Charge.

Radio District	Address of the Engineer in charge
1—BOSTON 9, MASSACHUSETTS	1600 Custom House
2—NEW YORK 14, NEW YORK	748 Federal Building 641 Washington Street
3—PHILADELPHIA 6, PENNSYLVANIA	1005 New U. S. Customhouse
4—BALTIMORE 2, MARYLAND	415 U. S. Custom House Gay and Water Streets
5—NORFOLK 10, VIRGINIA	402 Federal Building
6—ATLANTA 3, GEORGIA	718 Atlanta National Bldg., 50 Whitehall St., S.W.
6S—SAVANNAH, GEORGIA (P. O. 77)	214 Post Office Building
7—MIAMI 1, FLORIDA	312 Federal Building
7T—TAMPA 6, FLORIDA	Rm. 201-221 N. Howard Ave.
8—NEW ORLEANS 12, LOUISIANA	608 Federal Office Building 600 South Street
8M—MOBILE 10, ALABAMA	419 U. S. Court and Customs House
9—HOUSTON 2, TEXAS	New Federal Office Building 515 Rusk—Room 5636
9B—BEAUMONT, TEXAS (P. O. Box 1527)	301 Post Office Building 300 Willow Street
10—DALLAS 2, TEXAS	401 States General Life Insurance Bldg. 708 Jackson Street
11—LOS ANGELES 14, CALIFORNIA	Mez 50, 849 South Broadway
11SD—SAN DIEGO 1, CALIFORNIA	Fox Theater Building 1245 Seventh Avenue
11SP—SAN PEDRO, CALIFORNIA	356 West Fifth Street
12—SAN FRANCISCO 26, CALIFORNIA	323-A Customhouse 555 Battery Street
13—PORTLAND 5, OREGON	201 U. S. Court House 620 S. W. Main Street
14—SEATTLE 4, WASHINGTON	802 Federal Office Building 1st Avenue and Marion
15—DENVER 2, COLORADO	521 New Customhouse 19th between California & Stout Streets
16—ST. PAUL 2, MINNESOTA	208 Federal Courts Building 6th & Market Streets
17—KANSAS CITY 6, MISSOURI	3100 Federal Office Building 911 Walnut Street
18—CHICAGO 4, ILLINOIS	826 U. S. Courthouse 219 South Clark Street
19—DETROIT 26, MICHIGAN	1029 Federal Building
20—BUFFALO 3, NEW YORK	328 Post Office Building Elliott and Swan Streets
21—HONOLULU 13, HAWAII	502 Federal Bldg. P. O. Box 1021
22—SAN JUAN 13, PUERTO RICO	322-323 Federal Building Post Office Box 2987
23—ANCHORAGE, ALASKA	Room 55, U. S. Post Office Bldg.
23J—JUNEAU, ALASKA	6 Shattuck Building
24—WASHINGTON 25, D. C.	718 Jackson Pl., N. W.

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# POSTAL INFORMATION

Below are postal rates for QSL cards, first class letters and air mail letters to United States Possessions and foreign countries. First class rates are the rate for the first ounce. If the rate indicated is 11¢, add 7¢ for each additional ounce or fraction; if the rate indicated is 4¢, add 4¢ for each additional ounce or fraction.

Air mail rates are the rate for each half ounce, except where indicated.

International reply coupons of United States issue may be purchased at United States post offices for 15 cents each. Each coupon is exchangeable at a post office in any country for a stamp or stamps representing the international postage on a single rate surface letter. The column marked "RP" shows the number of international reply coupons required to prepay an air mail letter of the first weight unit from the countries indicated to the United States.

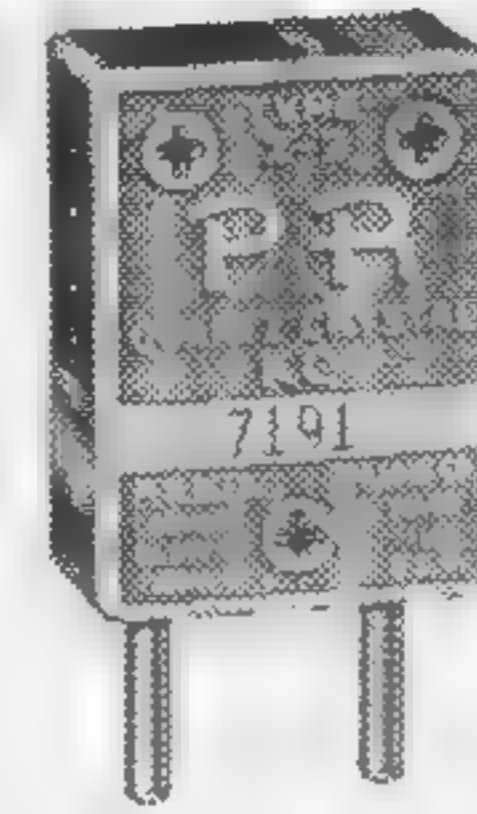
COUNTRY	QSL cards	First class	Air mail	RP	COUNTRY	QSL cards	First class	Air mail	RP	COUNTRY	QSL cards	First class	Air mail	RP
ADEN	.07	\$.11	\$.25	5	GABON REPUBLIC	.07	.11	.25	2	PAKISTAN	.07	.11	.25	4
AFGHANISTAN	.07	.11	.25	3	GAMBIA	.07	.11	.25	4	PANAMA	.07	.11	.13	4
ALAND ISLANDS	.07	.11	.15	2	GERMANY	.07	.11	.15	2	PAPUA TERRITORY	.07	.11	.25	5
ALASKA	.03	.04	.07*	2	GHANA	.07	.11	.25	4	PARAGUAY	.07	.11	.15	3
ALBANIA	.07	.11	.15	2	GIBRALTAR	.07	.11	.15	2	PERU	.07	.11	.15	5
ALGERIA	.07	.11	.15	2	GILBERT AND ELLICE ISLANDS	.07	.11	.25	1	PHILIPPINE ISLANDS	.07	.11	.25	3
ANDORRA	.07	.11	.15	2	GOA	.07	.11	.25	2	PITCAIRN ISLAND	.07	.11	.25	1
ANGOLA	.07	.11	.25	3	GREECE	.07	.11	.15	2	POLAND	.07	.11	.15	2
ARGENTINA	.07	.11	.15	4	GREENLAND	.07	.11	.15	2	PORTUGAL	.07	.11	.15	2
ASCENSION ISLAND	.07	.11	.15	3	GUADALOUPE	.07	.11	.13	2	PORTUGUESE GUINEA	.07	.11	.25	2
AUSTRALIA	.07	.11	.25	3	GUATEMALA	.07	.11	.13	2					
AUSTRIA	.07	.11	.15	2	GUINEA, REPUBLIC OF	.07	.11	.25	2					
AZORES	.07	.11	.15	2	HAITI	.07	.11	.13	1	REUNION ISLAND	.07	.11	.25	3
					HONDURAS	.07	.11	.13	3	RHODESIA AND NYASALAND	.07	.11	.25	1
BAHAMAS	.07	.11	.13	1	HONG KONG	.07	.11	.25	5	RIO DE ORO	.07	.11	.25	1
BALEARIC ISLANDS	.07	.11	.15	2	HUNGARY	.07	.11	.15	3	RIO MUNI	.07	.11	.25	1
BARBADOS	.07	.11	.13	1						RUANDA-URUNDI	.07	.11	.25	1
BECHUANALAND	.07	.11	.25	5	ICELAND	.07	.11	.15	2	RUMANIA	.07	.11	.15	3
BELGIUM	.07	.11	.15	1	IFNI	.07	.11	.25	1	RYUKYU ISLANDS	.07	.11	.25	1
BERMUDA	.07	.11	.13	2	INDIA	.07	.11	.25	1					
BOLIVIA	.07	.11	.15	2	INDONESIA	.07	.11	.25	4	SAHARA	.07	.11	.25	1
BRAZIL	.07	.11	.15	3	IRAN	.07	.11	.25	3	ST. HELENA	.07	.11	.25	1
BRITISH CAMEROONS	.07	.11	.25	4	IRAQ	.07	.11	.25	2	ST. PIERRE AND MIQUELON	.07	.11	.13	2
BRITISH GUIANA	.07	.11	.15	2	IRELAND	.07	.11	.15	1	SAMOA (WESTERN)	.07	.11	.25	4
BRITISH HONDURAS	.07	.11	.13	1	ISRAEL	.07	.11	.25	1	SANTA CRUZ ISLAND	.07	.11	.25	3
BRITISH NORTH BORNEO	.07	.11	.25	6	ITALY	.07	.11	.15	2	SARAWAK	.07	.11	.25	1
BRUNEI	.07	.11	.25	7	IVORY COAST	.07	.11	.25	1	SAUDI ARABIA	.07	.11	.25	1
BULGARIA	.07	.11	.15	2	JAMAICA	.07	.11	.13	1	SENEGAL	.07	.11	.25	2
BURMA	.07	.11	.25	1	JAPAN	.07	.11	.25	2	SEYCHELLES	.07	.11	.25	3
					JORDAN	.07	.11	.25	3	SIERRA LEONE	.07	.11	.25	4
CAMBODIA	.07	.11	.25	3	KENYA & UGANDA	.07	.11	.25	5	SOLOMON ISLANDS	.07	.11	.25	1
CAMEROUN	.07	.11	.25	2	KOREA	.07	.11	.25	1	SOMALI REPUBLIC	.07	.11	.25	1
CANADA	.03	.04	.07*	2	KUWAIT	.07	.11	.25	1	SOMALILAND				
CANARY ISLANDS	.07	.11	.15	2	LABUAN	.07	.11	.25	6	PROTECTORATE	.07	.11	.25	1
CAPE VERDE ISLANDS	.07	.11	.25	3	LAOS	.07	.11	.25	1	SOUTH-WEST AFRICA	.07	.11	.25	1
CARIBBEAN, BRITISH TERRITORIES IN	.07	.11	.13	2	LATVIA	.07	.11	.25	1	SPAIN	.07	.11	.15	2
CAYMAN ISLANDS	.07	.11	.13	1	LEBANON	.07	.11	.25	1	SUDAN	.07	.11	.25	1
CENTRAL AFRICAN REPUB.	.07	.11	.25	2	LEEWARD ISLANDS	.07	.11	.13	1	SURINAM	.07	.11	.15	1
CEYLON	.07	.11	.25	1	LIBERIA	.07	.11	.25	1	SWEDEN	.07	.11	.15	1
CHAD	.07	.11	.25	1	LIBYA	.07	.11	.15	1	SWITZERLAND	.07	.11	.15	1
CHILE	.07	.11	.15	4	LITHUANIA	.07	.11	.25	1	SYRIA	.07	.11	.15	3
CHINA, REPUBLIC OF	.07	.11	.25	3	LUXEMBOURG	.07	.11	.15	1					
CHINA (CONTINENTAL)	.07	.11	.25	3	MACAO	.07	.11	.25	1	TANGANYIKA	.07	.11	.25	5
COLOMBIA	.07	.11	.15	1	MADERA ISLANDS	.07	.11	.15	2	TASMANIA	.07	.11	.25	3
COMORO ISLANDS	.07	.11	.25	1	MALAGASY REP. (MADAGASCAR)	.07	.11	.25	3	THAILAND	.07	.11	.25	1
CONGO (BRAZZAVILLE AND LEOPOLDVILLE)	.07	.11	.25	2	MALAYA	.07	.11	.25	6	TIMOR	.07	.11	.25	4
CORSICA	.07	.11	.15	2	MALI	.07	.11	.25	1	TOGO	.07	.11	.25	2
COSTA RICA	.07	.11	.13	2	MALTA	.07	.11	.15	3	TONGA (FRIENDLY) ISLANDS	.07	.11	.25	1
CUBA	.07	.11	.13	4	MARTINIQUE	.07	.11	.13	2	TRINIDAD AND TOBAGO	.07	.11	.13	3
CYPRUS	.07	.11	.25	1	MAURITANIA	.07	.11	.25	2	TRISTAN DE CUNHA	.07	.11	.25	1
CZECHOSLOVAKIA	.07	.11	.15	1	MAURITUS	.07	.11	.25	1	TUNISIA	.07	.11	.15	1
					MEXICO	.03	.04	.07*	1	TURKEY	.07	.11	.15	1
DAHOMY	.07	.11	.25	1	MOROCCO	.07	.11	.15	1	TURKS ISLAND	.07	.11	.13	1
DENMARK	.07	.11	.15	1	MOZAMBIQUE	.07	.11	.25	1					
DOMINICAN REPUBLIC	.07	.11	.13	2	NAURA ISLANDS	.07	.11	.25	1	UNION OF SOUTH AFRICA	.07	.11	.25	5
					NEPAL	.07	.11	.25	7	U.S.S.R.	.07	.11	.25	1
ECUADOR	.07	.11	.15	3	NETHERLANDS	.07	.11	.15	1	UPPER VOLTA	.07	.11	.25	1
EGYPT	.07	.11	.15	1	NETHERLANDS ANTILLES	.07	.11	.13	1	URUGUAY	.07	.11	.15	5
EL SALVADOR	.07	.11	.13	2	NETHERLANDS NEW GUINEA	.07	.11	.25	1					
ENGLAND	.07	.11	.15	1	NEW CALEDONIA	.07	.11	.25	2	VATICAN CITY	.07	.11	.15	2
ERITREA	.07	.11	.25	1	NEW GUINEA, TERRITORY OF	.07	.11	.25	1	VENEZUELA	.07	.11	.15	2
ESTONIA	.07	.11	.25	1	NEW HEBRIDES	.07	.11	.25	3	VIETNAM	.07	.11	.25	1
ETHIOPIA	.07	.11	.25	1	NEW ZEALAND	.07	.11	.25	1					
					NICARAGUA	.07	.11	.13	4	WINDWARD ISLANDS	.07	.11	.13	1
FAEROE ISLANDS	.07	.11	.15	2	NIGER	.07	.11	.25	1	YEMEN	.07	.11	.25	1
FALKLAND ISLANDS	.07	.11	.15	1	NIGERIA	.07	.11	.25	4	YUGOSLAVIA	.07	.11	.15	1
FIJI ISLANDS	.07	.11	.25	1	NORWAY	.07	.11	.15	1					
FINLAND	.07	.11	.15	2						ZANZIBAR	.07	.11	.25	5
FRANCE	.07	.11	.15	2										
FRENCH GUIANA	.07	.11	.15	2										
FRENCH OCEANIA	.07	.11	.25	2										
FRENCH SOMALILAND	.07	.11	.25	1										

\*Rate per ounce.  
QSL cards and Aerogrammes (air letter sheets) may be sent to any country in the world by air mail for 11¢ (exception, QSL cards to Canada and Mexico, 5¢).  
These rates include all revisions up to press time of this issue.



Given below are a number of Q signals whose meanings most often need to be expressed with brevity and clearness in amateur work. (Q abbreviations take the form of questions only when each is sent followed by a question mark.)

- QAV Are you calling me? I am calling\_\_\_\_\_.
- QRG Will you tell me my exact frequency in kilocycles? Your frequency is\_\_\_\_\_kc.
- QRH Does my frequency vary? Your frequency varies.
- QRI How is the tone of my transmission? The tone of your transmission is\_\_\_\_\_ (1. good; 2. variable; 3. bad).
- QRJ Are you receiving me badly? Are my signals weak? I cannot receive you. Your signals are too weak.
- QRK What is the readability of my signals (1 to 5)? The readability of your signals is\_\_\_\_\_ (1 to 5).
- QRL Are you busy? I am busy or busy with (\_\_\_\_\_).
- QRM Are you being interfered with? I am interfered with.
- QRN Are you troubled by atmospherics? I am being troubled by atmospherics.
- DRQ Shall I send faster? Send faster (\_\_\_\_\_ words per min.).
- QRS Shall I send more slowly? Send more slowly (\_\_\_\_\_w.p.m.).
- QRT Shall I stop sending? Stop sending.
- QRU Have you anything for me? I have nothing for you.
- QRV Are you ready? I am ready.
- QRW Shall I tell\_\_\_\_\_that you are calling him? Please tell\_\_\_\_\_that I am calling him.
- QRX When will you call again? I will call you again at\_\_\_\_\_hours (on\_\_\_\_\_kc).
- QRZ By whom am I being called? You are being called by\_\_\_\_\_.
- QSA What is the strength of my signals (1 to 5)? The strength of your signals is\_\_\_\_\_ (1 to 5).
- QSB Does the strength of my signals vary? The strength of your signals varies.
- QSD Is my keying correct? Are my signals distinct? Your keying is incorrect; your signals are bad.
- QSG Shall I send\_\_\_\_\_telegrams (or one) at a time? Send\_\_\_\_\_telegrams at a time.
- QSL Can you give me acknowledgment of receipt? I give you acknowledgment of receipt.
- QSM Shall I repeat the last telegram I sent you? Repeat the last telegram you sent me.
- QSO Can you communicate with\_\_\_\_\_direct (or through\_\_\_\_\_)? I can communicate with\_\_\_\_\_direct (or through\_\_\_\_\_).
- QSP Will you relay to\_\_\_\_? I will relay to\_\_\_\_\_.
- QSV Shall I send a series of VVV\_\_\_\_? Send a series of VVV.
- QSW Will you send on\_\_\_\_\_kcs? etc. I will send on\_\_\_\_\_kcs, etc.
- QSX Will you listen for\_\_\_\_(call sign) on\_\_\_\_\_kcs? I am listening for\_\_\_\_on\_\_\_\_\_kcs.
- QSY Shall I change to\_\_\_\_\_kilocycles without changing the type of wave? Change to \_\_\_\_\_kc. without changing type of wave.
- QSZ Shall I send each word or group twice? Send each word or group twice.
- QTA Shall I cancel nr\_\_\_\_\_as if it had not been sent? Cancel nr\_\_\_\_\_as if it had not been sent.
- QTB Do you agree with my number of words? I do not agree with your number of words; I will repeat the first letter of each word and the first figure of each number.
- QTC How many telegrams have you to send? I have\_\_\_\_\_telegrams for you or for\_\_\_\_\_.
- QTH What is your position (location)? My location is\_\_\_\_\_(by any indication).
- QTR What is the exact time? The time is\_\_\_\_\_.
- CQ is the general call to any station.
- Special abbreviations adopted by ARRL:
- QST General call preceding a message addressed to all amateurs and ARRL Members. This is in effect "CQ ARRL."
- QRRR Official ARRL "land SOS." A distress call for emergency use only by station in an emergency situation.
- A.R.R.L.-NET "QN" SIGNALS**
- QNA Answer in pre-arranged order.
- QNB Act as relay between\_\_\_\_\_and\_\_\_\_\_.
- QNC All Net stations copy.
- QND Net is directed.
- QNE Entire Net please stand by.
- QNF Net is free.
- QNG Take over as Net Control Station.
- QNH Your Net frequency is high.
- QNI Report into Net or I report into Net.
- QNJ Can you copy me (or\_\_\_\_\_)?
- QNK Transmit message(s) (for\_\_\_\_\_) to\_\_\_\_\_.
- QNL Your Net frequency is low.
- QNM You are QRMing\_\_\_\_; please stand by.
- QNN Net Control Station is\_\_\_\_(on\_\_\_\_\_kc).
- QNO Going out of Net.
- QNP Unable to copy you (or\_\_\_\_\_)?
- QNQ Send you information "QNC" or May I transmit message "QNC?"
- QNR Answer\_\_\_\_\_and relay (or receive) traffic.
- QNS Following stations in Net\_\_\_\_\_.
- QNT Leaving Net temporarily (or for\_\_\_\_\_minutes) or I request to leave Net temporarily, etc.
- QNU \_\_\_\_\_has traffic for you; await instructions (or QNU QNR).
- QNV Please request\_\_\_\_\_to QSV.
- QNW Through whom shall I relay message for\_\_\_\_\_?
- QNX You are excused from Net or I request to be excused.
- QNY Please shift to another frequency (or to \_\_\_\_\_kc.) to prevent QRMing other Net stations (or to clear traffic with\_\_\_\_\_).
- QNZ Zero beat your signal with that of the Net Control Station.



## AMATEUR

### Fundamental, PR Type Z-2

Frequency Ranges in Kcs.: 3,500 to 4,000 (80M); 7,000 to 7,425 (40M); 8,000 to 8,222 (2M); 8,334 to 9,000 (6M).

Rugged. Low drift, fundamental oscillators. High activity and power output. Stands up under maximum crystal currents. Stable, long-lasting;  $\pm 500$  cycles.....\$2.95 Net

(All Z-2 Crystals calibrated with a load of 32 mmfd.)

### Third Overtone, PR Type Z-9A

Hermetically sealed; calibrated 24,000 to 24,666 and 25,000 to 27,000 Kcs.,  $\pm 3$  Kcs.; .050" pins.

\$3.95 Net

### 6 Meters, PR Type Z-9A



Fifth overtone; for operating directly in 6-meter band; hermetically sealed; calibrated 50 to 54 Mc.,  $\pm 15$  Kcs.; .050" pins.....\$4.95 Net

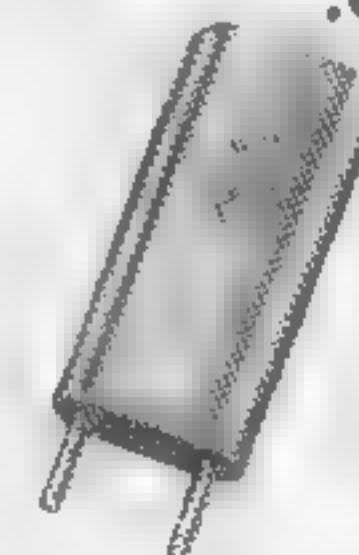
## SPECIAL TYPES

Commercial Crystals available from 100 Kc. to 70 Mc. Prices on request.

### Type Z-1, Aircraft Z-1, MARS & CAP

3023.5 Kcs., .005% \$3.45 Net

Official assigned transmitter frequencies in the range. Calibrated to .005%. 1600 to 10000 Kc.....\$3.45 Net



### Type Z-6A, Frequency Standard

To determine band-edge. To keep the VFO and receiver properly calibrated. 100 Kc. ....\$6.95 Net

### Type 2XP

Suitable for converters, experimental, etc. Same holder dimensions as Type Z-2.

1600 to 12000 Kc. (Fund.)

$\pm 5$  Kc.....\$3.45 Net

12001 to 25000 Kc. (3d Mode)

$\pm 10$  Kc.....\$4.45 Net



### Type Z-1, TV Marker Crystals

Channels 2 through 13.....\$6.45 Net

4.5 Mc. Inter-carrier, .01%.....\$2.95 Net

5.0 Mc. Sig. Generator, .01%.....\$2.95 Net

10.7 Mc. FM, IF, .01%.....\$2.95 Net

### VHF Type Z-9R, Aircraft

For Lear, Narco and similar equipment operating in the 121 Mc. region, requiring crystals in 30 Mc. range.

Each.....\$4.95 Net



### TYPE Z-9R CITIZENS BAND CLASS "D"

FCC assigned frequencies in megacycles: 26.965, 26.975, 26.985, 27.005, 27.015, 27.025, 27.035, 27.055, 27.065, 27.075, 27.085, 27.105, 27.115, 27.125, 27.135, 27.155, 27.165, 27.175, 27.185, 27.205, 27.215, 27.225, 27.255; calibrated to .005%.

\$2.95 Net

(Be sure to specify manufacturer and model number of equipment)

TYPE Z-9R RECEIVER CRYSTALS FOR CITIZENS BAND CLASS "D"—Specify I.F. frequency, also whether receiver oscillator is above or below transmitter frequency. Calibrated to .005%.

(Be sure to specify manufacturer and model number of equipment)

### TYPE Z-9R RADIO CONTROL CLASS "C"

FCC assigned frequencies in megacycles: 26.995, 27.045, 27.095, 27.145, 27.195, 27.255; calibrated to .005%.....\$2.95 Net

(Be sure to specify manufacturer and model number of equipment)

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140	1244	937	697	776	442	1119	578	554	194	721	1212	739	596	1291	1697	701	426	285	676	456	1936	319	604	668	907	214	424	748	505	666	1592	521	467	1583	2139	2182	543	371	
BIRMINGHAM, ALA.	140	1174	1052	776	442	1119	578	618	334	581	1095	670	641	1152	1602	567	433	374	579	375	1802	331	665	659	862	182	312	864	638	783	1456	608	400	1466	2013	2082	661	512	
BISMARCK, N. D.	1244	1174	1489	1106	1133	440	734	1014	1359	990	531	506	926	1081	534	1211	881	1529	618	943	1267	965	1838	682	384	1030	1297	1396	1430	1367	1095	1127	779	694	1265	1013	1318	1474	
BOSTON, MASS.	937	1052	1489	400	622	1735	851	551	791	1551	1769	1159	613	2072	2024	1605	807	1017	1251	1259	2596	826	1255	857	1123	943	1359	188	471	271	2300	483	1038	2099	2699	2493	393	673	
BUFFALO, NEW YORK	697	776	1106	400	344	1335	454	173	623	1198	1370	760	216	1692	1640	1286	435	879	861	913	2198	483	1181	458	731	627	1086	292	947	279	1906	178	662	1699	2300	2117	292	598	
CHARLESTON, W. VA.	353	442	1133	622	344	1246	400	217	302	935	1256	673	284	1475	1642	984	262	553	701	642	2054	225	870	461	755	322	754	440	311	365	1733	168	465	1616	2205	2132	253	350	
CHEYENNE, WYOMING.	1229	1119	440	1735	1335	1246	891	1199	1390	726	96	583	1125	653	521	947	986	1493	560	813	882	1033	1763	878	642	1032	1131	1604	1556	1556	663	1298	795	371	967	973	1477	1540	
CHICAGO, ILLINOIS	587	578	734	851	454	400	891	308	652	803	920	309	238	1252	1248	940	165	863	414	552	1745	269	1188	81	355	397	833	713	699	666	1453	410	262	1260	1858	1737	597	745	
CLEVELAND, OHIO	554	618	1014	551	173	217	1199	308	518	1025	1227	617	90	1525	1541	1114	263	770	700	740	2049	311	1087	335	630	459	924	405	432	360	1749	115	492	1568	2166	2026	306	541	
COLUMBIA, S. C.	194	334	1359	791	623	302	1390	652	518	914	1380	863	585	1484	1837	891	489	256	830	644	2123	395	569	726	998	358	599	605	332	523	1781	448	603	1751	2317	2326	405	178	
DALLAS, TEXAS	721	581	990	1551	1198	935	726	803	1025	914	663	632	610	546	983	977	821	411	1023	180	478	1438	476	1333	309	235	525	827	1022	983	973	1155	715	273	953	1550	1467	896	993
DENVER, COLORADO	1212	1095	531	1769	1370	1256	96	920	1227	1380	663	610	1156	557	591	879	1000	1467	558	780	831	1038	1276	914	700	1023	1082	1631	1566	1579	586	1320	796	371	949	1021	1494	1537	
DES MOINES, IOWA	739	670	506	1159	760	673	583	309	617	863	632	610	546	983	977	821	411	1023	180	478	1438	476	1333	309	235	525	827	1022	983	973	1155	715	273	953	1550	1467	896	993	
DETROIT, MICHIGAN	596	641	926	613	216	284	1125	238	90	585	999	1156	546	546	983	977	821	411	1023	180	478	1438	476	1333	309	235	525	827	1022	983	973	1155	715	273	953	1550	1467	896	993
EL PASO, TEXAS	1291	1152	1081	2072	1692	1475	653	1252	1484	572	557	983	1479	1065	676	1264	1473	839	847	701	1254	1643	1279	1157	1169	983	1905	1755	1836	346	1590	1034	689	995	1376	1728	1661		
HELENA, MONTANA	1697	1602	534	2024	1640	1642	521	1248	1541	1837	1247	591	977	1455	1065	1467	1382	1973	1023	1315	924	1453	2260	1206	912	1488	1646	1929	1947	1897	907	1652	1236	403	807	490	1842	1969	
HOUSTON, TEXAS	701	567	1211	1605	1286	984	947	940	1114	891	225	879	821	1105	676	1467	865	821	644	338	1374	803	968	1005	1056	665	318	1420	1204	1341	1017	1137	679	1200	1645	1891	1220	1066	
INDIANAPOLIS, IND.	426	433	881	807	435	262	986	165	263	489	763	1000	411	240	1264	1382	865	699	453	483	1809	107	1024	243	511	251	712	646	573	585	1499	330	231	1356	1949	1872	494	593	
JACKSONVILLE, FLA.	285	374	1529	1017	879	553	1493	863	770	256	908	1467	1023	831	1473	1973	821	699	950	690	2147	594	326	942	1191	499	504	838	546	758	1794	703	751	1837	2374	2455	647	346	
KANSAS CITY, MISSOURI	676	579	618	1251	861	701	560	414	700	830	451	558	180	645	839	1023	644	453	950	375	1356	480	1241	443	413	473	680	1097	1009	1038	1049	781	238	925	1506	1506	945	981	
LITTLE ROCK, ARK.	456	325	943	1259	913	642	813	552	740	644	293	780	478	723	847	1315	388	483	690	325	1480	435	949	618	708	325	355	1081	909	1007	1137	779	291	1148	1688	1785	892	818	
LOS ANGELES, CALIF.	1936	1802	1267	2596	2198	2054	882	1745	2049	2123	1240	831	1438	1983	701	924	1374	1809	2147	1356	1480	1829	2339	1744	1524	1780	1673	2451	2355	2394	357	2136	1589	579	347	959	2300	2294	
LOUISVILLE, KY.	319	331	965	826	483	225	1033	269	311	395	726	1038	476	316	1254	1453	803	107	594	480	435	1829	919	349	605	154	623	652	529	582	1508	344	242	1402	1986	1943	476	516	
MIAMI, FLORIDA	604	665	1838	1255	1181	870	1763	1188	1087	569	1111	1726	1333	1152	1643	2260	968	1024	326	1241	949	2339	919	1267	1511	815	669	1092	797	1019	1982	1010	1061	2089	2594	2734	923	598	
MILWAUKEE, WIS.	668	659	682	857	458	461	878	81	335	726	357	914	309	252	1279	1206	1005	243	942	443	618	1744	349	1267	299	478	910	733	749	694	1464	446	327	1242	1842	1692	637	810	
MINNEAPOLIS, MINN.	907	862	384	1123	731	755	642	355	630	998	862	700	235	543	1157	912	1056	511	1191	413	708	1524	605	1511	299	697	1051	1018	1047	985	1280	743	466	987	1584	1395	934	1100	
NASHVILLE, TENN.	214	182	1030	943	627	322	1032	397	459	358	617	1023	525	470	1169	1488	665	251	499	473	325	1780	154	815	478	697	469	761	586	685	1446	472	254	1393	1963	1975	569	517	
NEW ORLEANS, LA.	424	312	1297	1359	1086	754	1131	833	924	599	443	1082	827	939	983	1646	318	712	504	680	355	1673	623	669	910	1051	469	1171	926	1089	1316	919	598	1434	1926	2101	966	769	
NEW YORK, N. Y.	748	864	1396	188	292	440	1604	713	405	605	1374	1631	1022	482	1905	1929	1420	646	838	1097	1081	2451	652	1092	733	1018	761	1171	296	83	2145	317	875	1972	2571	2408	205	499	
NORFOLK, VA.	505	638	1430	471	438	311	1556	699	432	332	1196	1566	983	522	1755	1947	1204	573	546	1009	909	2355	529	797	749	1047	586	926	296	222	2028	318	771	1927	2515	2436	146	203	
PHILADELPHIA, PA.	666	783	1367	271	279	365	1556	666	360	523	1299	1579	973	443	1836	1897	1341	585	758	1038	1007	2394	582	1019	694	985	685	1089	83	222	2083	259	811	1925	2523	2380	123	423	
PHOENIX, ARIZONA	1592	1456	1095	2300	1906	1733	663	1453	1749	1781	887	586	1155	1690	346	907	1017	1499	1794	1049	1137	357	1508	1982	1464	1280	1446	1316	2145	2028	2083	1828	1272	504	653	1114	1983	1954	
PITTSBURGH, PA.	521	608	1127	483	178	168	1298	410	115	448	1070	1320	715	205	1590	1652	1137	330	703	781	779	2136	344	1010	446	743	472	919	317	318	259	1828	559	1668	2264	2138	192	442	
ST. LOUIS, MO.	467	400	779	1038	662	465	795	262	492	603	547	796	273	455	1034	1236	679	231	751	238	291	1889	242	1061	327	466	254	598	875	771	811	1272	559	1162	1744	1724	712	746	
SALT LAKE CITY, UTAH	1583	1466	694	2099	1699	1616	371	1260	1568	1751	999	371	953	1492	689	403	1200	1356	1837	925	1148	579	1402	2089	1242	987	1393	1434	1972	1927	1925	504	1668	1162	600	701	1848	1906	
SAN FRANCISCO, CALIF.	2139	2013	1265	2699	2300	2205	967	1858	21																														



## ARRL Phonetic Alphabet

A	ADAM
B	BAKER
C	CHARLIE
D	DAVID
E	EDWARD
F	FRANK
G	GEORGE
H	HENRY
I	IDA
J	JOHN
K	KING
L	LEWIS
M	MARY
N	NANCY
O	OTTO
P	PETER
Q	QUEEN
R	ROBERT
S	SUSAN
T	THOMAS
U	UNION
V	VICTOR
W	WILLIAM
X	X-RAY
Y	YOUNG
Z	ZEBRA

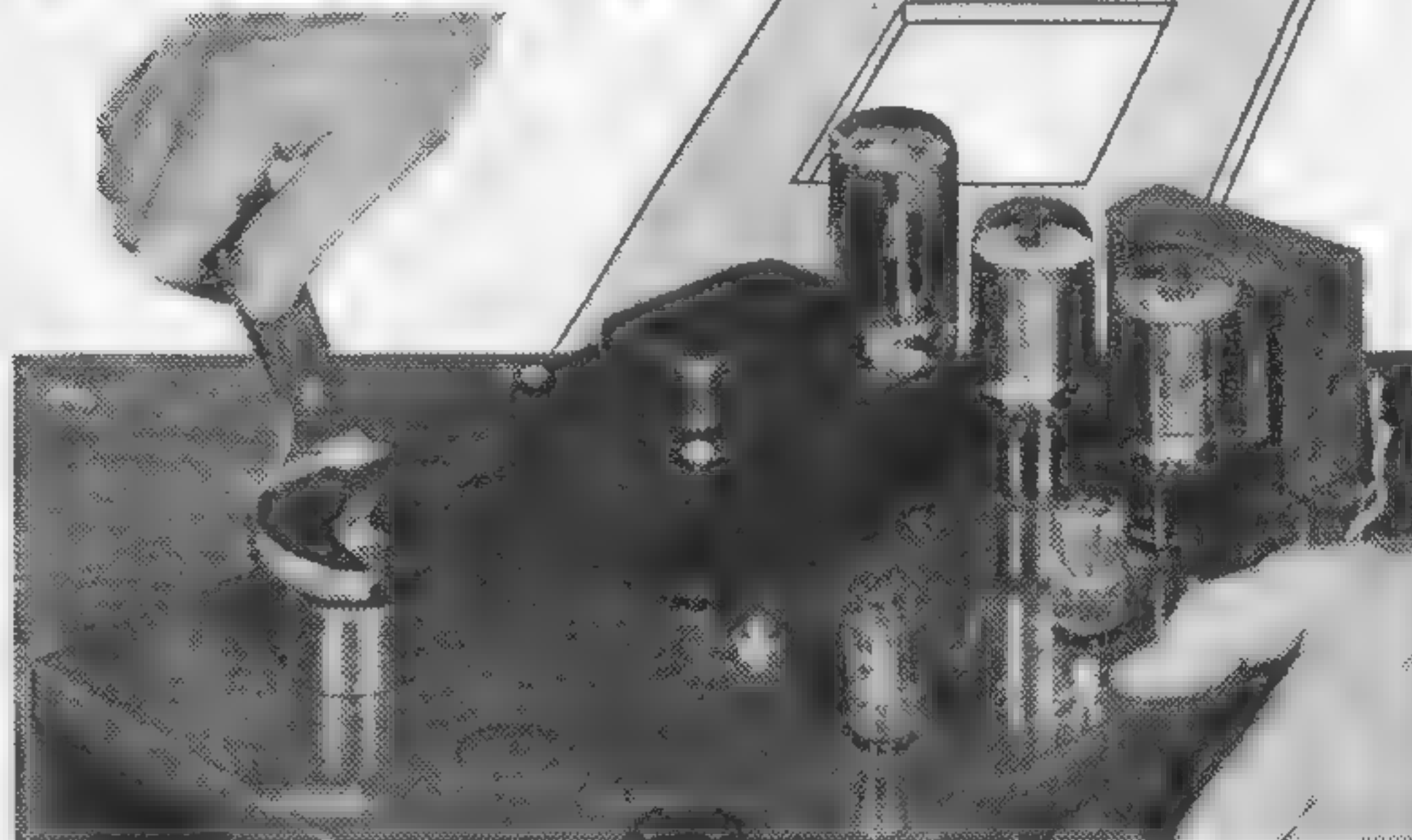
### ON GOOD PHONE OPERATING

1. Listen much . . . with care. Avoid distractions in your operating room. Tune the band well after each call.
2. Time your calls; monitor your own frequency. Call only when a station is free.
3. Make short calls, with breaks to listen. Speak clearly, at a steady, modest rate. Three short calls are better than one long one.
4. Use push-to-talk technique . . . speak near the mike. Watch the modulation indicator. Keep local background noise at a minimum.
5. Make notes. Avoid missing points for comment. Jot down topics to avoid repeats.
6. Talk in connected thoughts and phrases. Notes will help avoid mixing up subjects. Push-to-talk technique will keep brother amateurs from calling you a monologist.
7. Speak naturally. QSOs need not be cut and dried. Make them interesting. Avoid exhibitionism. Use proper operating form to promote efficiency in communication and add respect and prestige for your station.

Use of this standard list is recommended by ARRL. Haphazard selection of words often results in confusion. A degree of uniformity in use of phonetic words reflects favorably on your individual operating, and on the whole amateur service.

ARRL Communications Department.

## CUT HOLES FAST

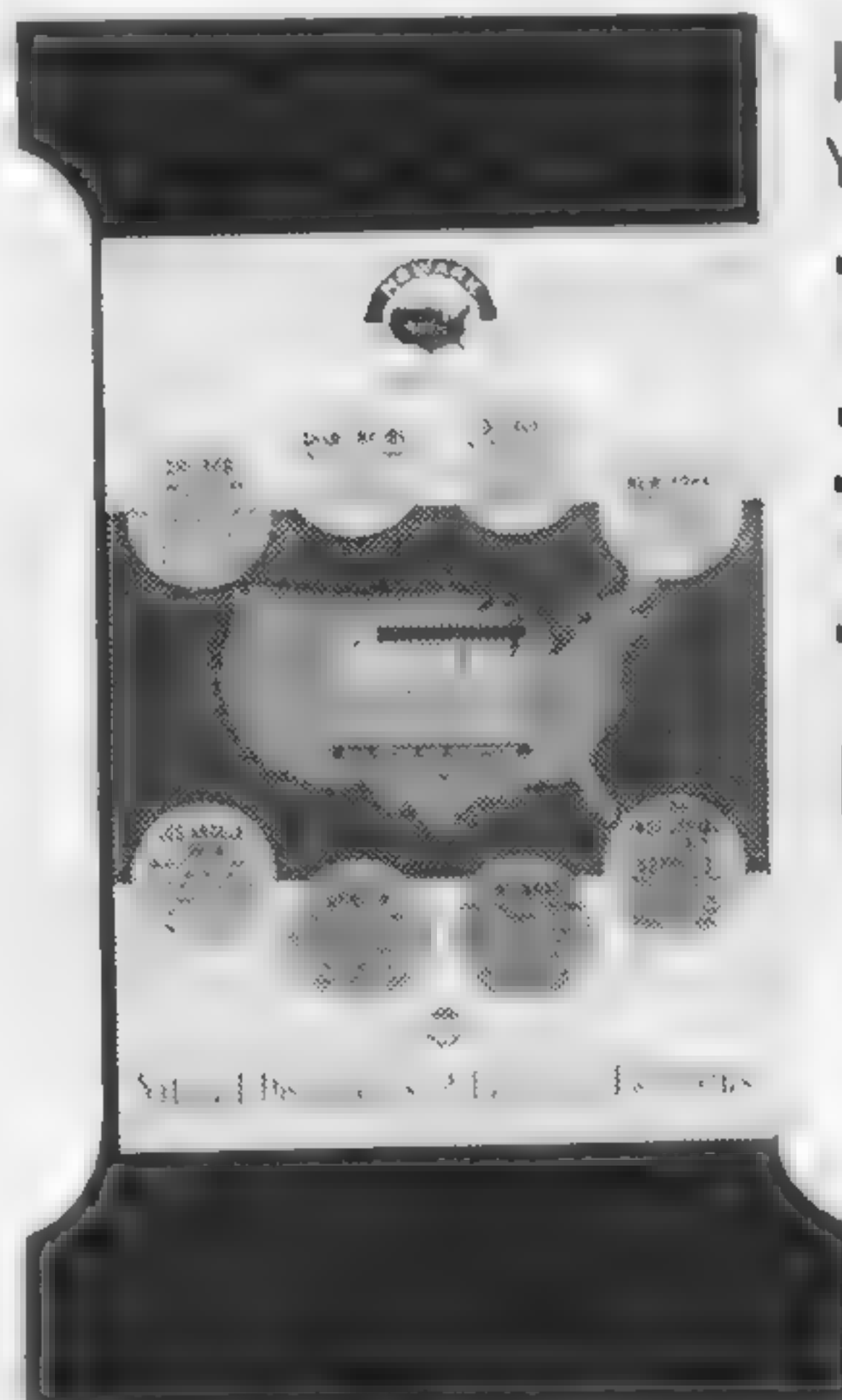


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# STANDARD TIME THROUGHOUT THE WORLD

Compiled by the National Bureau of Standards

Standard time for the world, like longitude, is counted from Greenwich, England, as the prime meridian. Places to the east of Greenwich have faster time than Greenwich, while places to the west have slower time. The world is divided into time zones of approximately 15° for every hour. Since Greenwich is in the 0 zone, the number of any zone, if added or subtracted to the time in Greenwich, will give the corresponding time in that particular zone.

Not all countries follow the International Time Zone System, but some use the time of some principal city as a standard and others have no standard time. The different time zones of the world are numbered east and west of Greenwich. The zone number when added or subtracted, as shown in the following table, from the time of the zone gives the corresponding Greenwich time. Thus zones to the east have faster time than Greenwich and are indicated as minus (—), while those to the west have slower time and are indicated as plus (+).

Country	Zone Number	Country	Zone Number	Country	Zone Number
Admiralty Islands	—10	Ecuador	+5	Norway§	—1
Afghanistan	—4	Egypt†	—2	Nyasaland	—2
Alaska		Eire†	0	Orkney Islands	0
Juneau, Ketchikan, Sitka	+8	Ellice Islands	—12	Pakistan	—5½
Cordova	+9	El Salvador	+6	Palestine†	—2
Central part	+10	England†	0	Panama	+5
West coast, Aleutian Islands	+11	Equatorial Africa, French	—1	Paraguay	+4
Albania†	—1	Eritrea	—3	Peru†	+5
Algeria	—0	Ethiopia	—3	Philippine Islands	—8
Amirante Islands	—4	Falkland Islands†	+4	Poland	
Amsterdam Island	—5	Fanning Island	+11	Western part	—1
Andaman Islands	—6½	Faroe Islands	0	Eastern part	—2
Andorra†	0	Finland†	—2	Portugal†	0
Anglo-Egyptian Sudan	—2	France†	0	Puerto Rico	+4
Angola	—1	Gambia	0	Reunion Island	—4
Anguilla Island	+4	Germany†	—1	Rhodesia	
Antigua Island	+4	Gibraltar†	0	Northern	—2
Arabia†		Gilbert Islands	—12	Southern	—2
Aden†	—3	Gold Coast†	0	Rio de Oro	+1
Argentina†	+4	Greece†	—2	Rumania	—2
Aru Islands	—9	Scoresby Sound	+2	Samoa Islands	+11
Ascension Island	0	Angmagssalik, Disko Island, Western Coast	+3	San Marino†	—1
Austral (Tubuai) Islands	+10	Interior†		Sarawak	—8
Australia		Grenada Island	+4	Saudi Arabia†	
Western Australia	—8	Guadeloupe Island	+4	Scotland	0
Northern Territory, South Australia†	—9½	Guam Island	—10	Senegal†	0
New South Wales,† Queensland, Victoria*	—10	Guatemala	+6	Seychelles Islands	—4
Austria†	—1	Guiana, British, Dutch, French	+3½	Siam	—7
Azores Islands†	0	Guinea		Sierra Leone	0
Bahama Islands	+5	French, Spanish	0	Society Islands	+10
Bahrain Islands	—4	Portuguese	+1	Solomon Islands	—11
Balearic Islands†	0	Haiti	+5	Somaliland	—3
Barbados Island†	+4	Hawaiian Islands	+10	Southwest Africa	—2
Bechuanaland	—2	Hebrides Islands	0	Spain†	0
Belgium†	0	Honduras	+6	Spitzbergen†	
Bermuda Islands†	+4	Hungary†	—1	St. Croix Island	+4
Bhutan	—5½	Iceland†	+1	St. Helena Island	0
Bolivia	+4	India†	—5½	St. Lawrence Island	+11
Borneo†	—8	Indo-China†	—8	St. Lucia Island	+4
Brazil		Iran	—3½	St. Matthew Island	+11
Fernando Noronha Island, Isle de		Iraq†	—3	St. Miguel Island	0
Trinidad	+2	Ireland, Northern†	0	St. Pierre Island†	+4
Bahia, Ceara, Esperito Santo, Goyaz, Miranhao, Minas-Geraes, Para, Parana, Pernambuco, Piahy, Rio de Janeiro, Rio Grande do Norte, Rio Grande do Sul, Santa Catherina, Sao Paulo	+3	Isle of Man	0	St. Thomas Island	+4
Amazonas, Matto Grosso	+4	Isle of Pines	+5	St. Vincent Island	+4
Acre Territory	+5	Italy†	—1	Sudan (French West Africa)	
British Honduras†	+8	Jamaica	+5	Eastern part	0
Bulgaria	—3	Japan†	—9	Western part	+1
Burma	—6½	Java	—8	Sumatra Island	—7
Cameroons	—1	Kenya	—3	Sweden	—1
Canada		Kodiak Island	+10	Switzerland†	—1
Belle Isle, Labrador,† Newfoundland†	+3½	Korea	—8½	Syria†	—2
Anticosti Island, Cape Breton Island, Magdalen Island, New Brunswick,† Nova Scotia,† Prince Edward Island, Quebec (east of 68° W.),† Sable Island	+4	Labrador	+3½	Tanganyika	—3
Melville Peninsula (east), Ontario (east of 90° W.),† Quebec (west of 68 W.),† Southampton Island	+5	Laccadive Islands	—5½	Tangier	0
Manitoba, Ontario (west of 90° W.), Melville Peninsula (west), Northwest Territories (east)	+6	Latvia*	—2	Tasmania Island†	—10
Alberta, Saskatchewan, Northwest Territories (middle)	+7	Liberia	—1	Timor Island	—9
British Columbia, Northwest Territories (west)	+8	Libya*	—1	Tobago Island	+4
Yukon	+9	Liechtenstein	—1	Togoland	0
Arctic Islands†		Lithuania*	—2	Tonga (Friendly) Islands	
Canary Islands†	+1	Lord Howe Island	—10½	Transjordan*	
Cape Verde Islands	+2	Luxembourg*	0	Trinidad Island	+4
Caroline Islands	—10	Madagascar Island	—3	Tunisia	—1
Ceylon Island†	—5½	Madeira Islands	0	Turkey†	—2
Chagos Archipelago†	—5	Malay States	—7½	Turks Island	+5
Chile	+4	Maldiv Islands	—1	Uganda	—3
China		Malta Island	—12	Union of South Africa†	—2
Western part	—5	Marshall Islands	+4	United States of America†	
Mid-Western part	—6	Martinique Island	+4	Eastern	+5
Mid-Eastern part, Hainan, Palekoi, Hongkong, Macao	—7	Mauritius Island	+4	Central	+6
Eastern part	—8	Mexico*		Mountain	+7
Christmas Island	—7	Aguascalientes, Campeche, Chiapas, Chihuahua, Coahuila, Durango, Guanajuato, Guerrero, Jalisco, Mexico, Michoacan, Morelos, Nuevo Leon, Oaxaca, Puebla, Queretaro, Quintana Roo, San Luis Potosi, Tabasco, Tamaulipas, Tlaxcala, Yucatan	+6	Pacific	+8
Colombia	+5	Baja California (south of 28° N.), Nayarit, Sinaloa, Sonora	+7	Alaska	+10
Congo		Baja California (north of 28° N.)	+8	Uruguay†	+3
Western part	—1	Midway Island	+11	Estonia, Karelo-Finnish, Latvia, Lithuania, Moldavia, Russia, Ukraine, White Russia	—2
Eastern part	—2	Monaco§	0	Armenia, Azerbaijan, Georgia	—3
Cook Islands		Morocco§	0	Kazak, Tadzhik, Turkmen, Uzbek	—4
Costa Rica	+6	Mozambique	—2	Kirghiz, W. Siberian Region	—5
Cuba†	+5	Nepal	—5½	Approximately 82½° to 97½°	—6
Curacao Island	+4½	Netherlands	0	Buryat-Mongol, E. Siberian Region	—7
Cyprus Island	—2	New Caledonia Islands	—11	Approximately 112½° to 127½°	—8
Czechoslovakia	—1	Newfoundland§	+3½	Kuril Islands, Sakhalin	—9
Dahomey	0	New Guinea		Approximately 142½° to 157½°	—10
Denmark†	—1	Western part (Dutch)	—9	Approximately 157½° to 172½°	—11
Dodecanese Islands	—2	Eastern part (British)	—10	Approximately 172½° to coast	—12
Dominican Republic†	+5	New Hebrides Islands	—11	Vatican City	—1
		New Zealand§	—12	Venezuela	+4½
		Nicaragua	+6	Virgin Islands	+4
		Nigeria	—1	Wake Island	—12
		Norfolk Island	—11½	Wales	0
		Northern Ireland§	0	Wrangell Island	—12
				Yap Island	—10
				Yugoslavia	—1
				Zanzibar Island	—3

\*See time Zone Chart of the World No. 5192, published by Hydrographic Office, Navy.

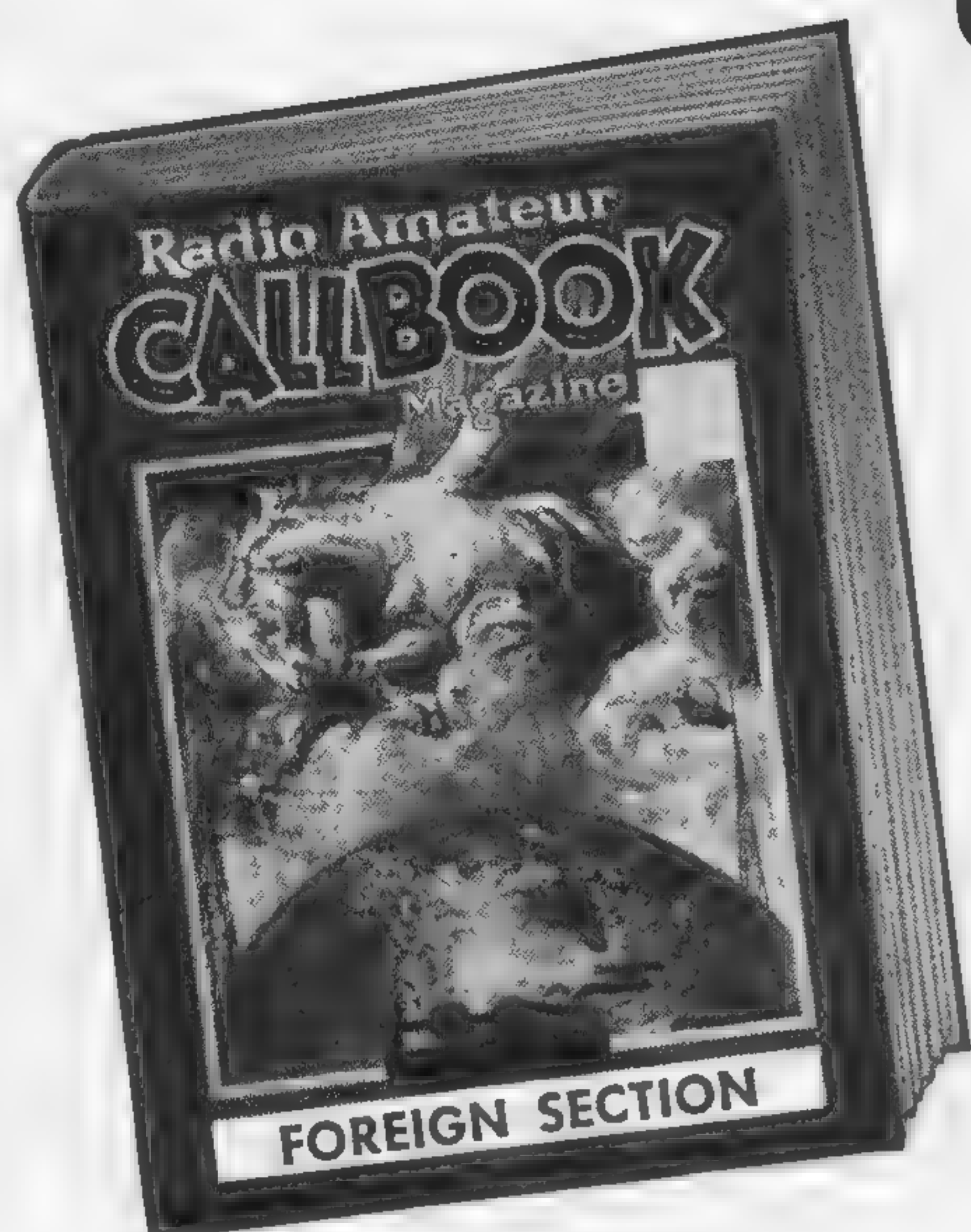
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‡No definite standard time used.  
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# Great Circle Chart of the World Centered on THE UNITED STATES



To find the great circle bearing to any point in the world from the center of the United States, draw a straight line from the star and note the reading in degrees on the outer scale. The bar scale at the bottom of the chart can be used to determine the distance in statute miles. For bearings to the nearest degree reference is invited to the table on the opposite Page. The outlines of this chart were prepared by the U.S. Coast and Geodetic Survey.



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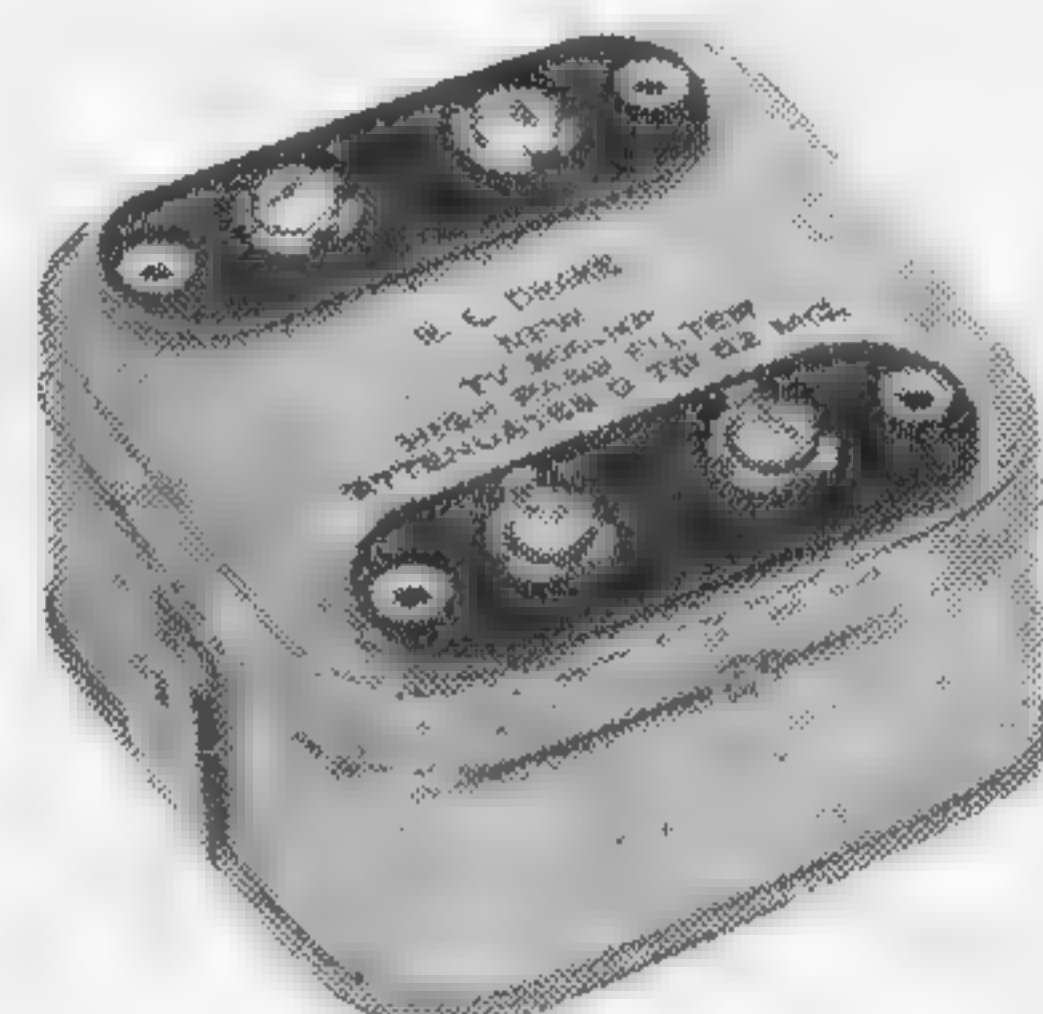
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XE MEXICO

MAP BY W4CXY/K4DE







# INTERNATIONAL "Q" SIGNALS

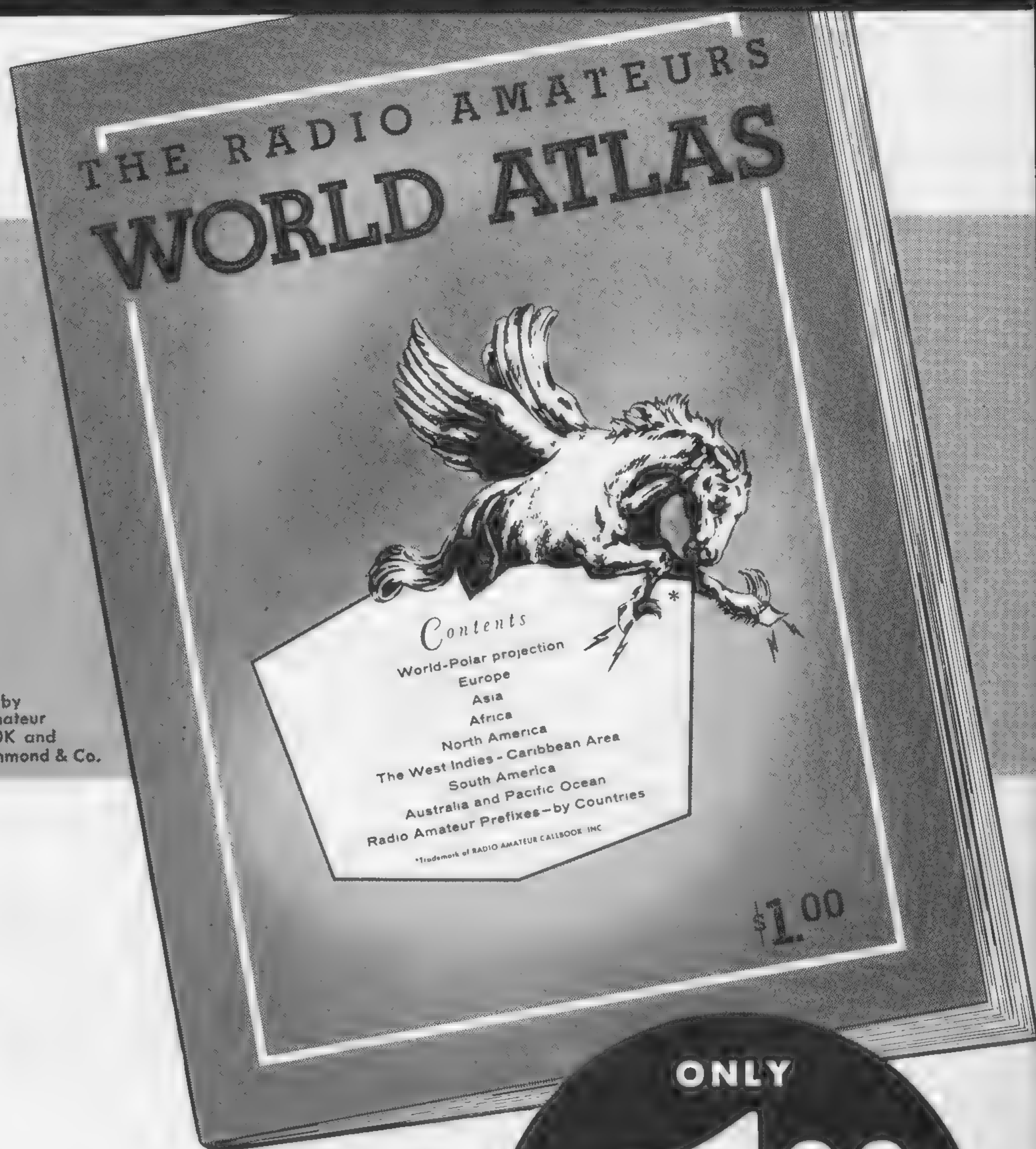
Abbreviation	Question	Answer or Advice	Abbreviation	Question	Answer or Advice
QRA	What is the name of your station?	The name of my stations is . . .	QSK	Will you listen to . . . [call sign(s)] on . . . kc/s (or Mc/s)?	I am listening to . . . [call sign(s)] on . . . kc/s (or Mc/s).
QRB	How far approximately are you from my station?	The approximate distance between our stations is . . . nautical miles (or kilometres)	QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency [or on . . . kc/s (or Mc/s)].
QRD	Where are you bound and where are you from?	I am bound for . . . from . . .	QSZ	Shall I send each word or group more than once?	Send each word or group twice (or . . . times).
QRC	Will you tell me my exact frequency or that of . . .)?	Your exact frequency (or that of . . . is . . . kc/s (or Mc/s).	QTA	Shall I cancel telegram number . . . as if it had not been sent?	Cancel telegram number . . . as if it had not been sent.
QRH	Does my frequency vary?	Your frequency varies.	QTB	Do you agree with my counting of words?	I do not agree with your counting of words; I will repeat the first letter or digit of each word or group.
QRI	How is the tone of my transmission?	The tone of your transmission is . . . (1. Good; 2. Variable; 3. Bad).	QTC	How many telegrams have you to send?	I have . . . telegrams for you (or for . . .).
QRK	What is the readability of my signals (or those of . . .)?	The readability of your signals (or those of . . .) is . . . (1. Unreadable; 2. Readable now and then; 3. Readable, but with difficulty; 4. Readable; 5. Perfectly readable).	QTE	What is my TRUE bearing from you?  What is my TRUE bearing from . . . (call sign)?  What is the TRUE bearing of . . . (call sign) from . . . (call sign)?	Your TRUE bearing from me is . . . degrees (at . . . hours) Your TRUE bearing from . . . (call sign) was . . . degrees (at . . . hours) The TRUE bearing of . . . (call sign) from . . . (call sign) was . . . degrees (at . . . hours).
QRL	Are you busy?	I am busy (or I am busy with . . .). Please do not interfere.	QTH	Will you send two dashes of ten seconds each followed by your call sign (repeated . . . times) [on . . . kc/s (or Mc/s)]?	I am going to send two dashes of ten seconds each followed by my call sign (repeated . . . times) [on . . . kc/s (or Mc/s)].
QRM	Are you being interfered with?	I am being interfered with.	QTI	Will you request . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s)?	I have requested . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s).
QRN	Are you troubled by static?	I am troubled by static.	QTN	What is your position in latitude and longitude (or according to any other indication)?	My position is . . . latitude . . . longitude (or according to any other indication).
QRO	Shall I increase power?	Increase power.	QTO	What is your TRUE track?	My TRUE track is . . . degrees.
QRP	Shall I decrease power?	Decrease power.	QTP	What is your speed?	My speed is . . . knots (or kilometres per hour).
QRQ	Shall I send faster?	Send faster (. . . words per minute).	QTL	What is your TRUE heading?	My TRUE heading is . . . degrees.
QRR	Are you ready for automatic operation?	I am ready for automatic operation. Send at . . . words per minute.	QTM	At what time did you depart from . . . (place)?	I departed from . . . (place) at . . . hours.
QRS	Shall I send more slowly?	Send more slowly (. . . words per minute).	QTS	Have you left dock (or port)?	I have left dock (or port)
QRT	Shall I stop sending?	Stop sending.	QTT	Are you airborne?	I am airborne.
QRU	Have you anything for me?	I have nothing for you.	QTV	Are you going to enter dock (or port)?	I am going to enter dock (or port)
QRV	Are you ready?	I am ready.	QTX	Are you going to alight (or land)?	I am going to alight (or land).
QRW	Shall I inform . . . that you are calling him on . . . kc/s (or Mc/s).	Please inform . . . that I am calling him on . . . kc/s (or Mc/s).	QTY	Can you communicate with my station by means of the International Code of Signals?	I am going to communicate with your station by means of the International Code of Signals.
QRX	When will you call me again?	I will call you again at . . . hours [on . . . kc/s (or Mc/s)].	QTA	What is the correct time?	The correct time is . . . hours.
QRY	What is my turn?	Your turn is Number . . . (Relates to communication.)	QTB	Will you send your call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that your frequency may be measured?	I will send my call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that my frequency may be measured.
QRZ	Who is calling me?	You are being called by . . . [on . . . kc/s (or Mc/s)].	QTC	What are the hours during which your station is open?	My station is open from . . . to . . . hours.
QSA	What is the strength of my signals (or those of . . .)?	The strength of your signals (or those of . . .) is . . . (1. Scarcely perceptible; 2. Weak; 3. Fairly good; 4. Good; 5. Very good).	QTD	Shall I stand guard for you on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours)?	Stand guard for me on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours).
QSB	Are my signals fading?	Your signals are fading.	QTE	Will you keep your station open for further communication with me until further notice (or until . . . hours)?	I will keep my station open for further communication with you until further notice (or until . . . hours).
QSD	Is my keying defective?	Your keying is defective.	QTF	Have you news of . . . (call sign)?	Here is news of . . . (call sign).
QSG	Shall I send . . . telegrams at a time?	Send . . . telegrams at a time.	QTB	Can you give me, in the following order, information concerning: visibility, height of clouds, direction and velocity of ground wind at . . . (place of observation)?	Here is the information requested . . .
QSH	What is the charge to be collected per word to . . . including your internal telegraph charge?	The charge to be collected per word to . . . including my internal telegraph charge is . . . francs.	QTC	What is the number (or other indication) of the last message you received from me [or from (call sign)]?	The number (or other indication) of the last message I received from you [or from . . . (call sign)] is . . .
QSK	Can you hear me between your signals?	I can hear you between my signals.	QTD	Have you received the urgency signal sent by . . . (call sign of mobile station)?	I have received the urgency signal sent by . . . (call sign of mobile station) at . . . hours.
QSL	Can you acknowledge receipt?	I am acknowledging receipt.	QTE	Have you received the distress signal sent by . . . (call sign of mobile station)?	I have received the distress signal sent by . . . (call sign of mobile station) at . . . hours.
QSM	Shall I repeat the last telegram which I sent you, or some previous telegram?	Repeat the last telegram which you sent me [or telegram(s) number(s) . . .].	QTF	Will you be forced to alight (or land)?	I am forced to alight (or land immediately).
QSN	Did you hear me [or . . . (call sign)] on . . . kc/s (or Mc/s)?	I did hear you [or . . . (call sign)] on . . . kc/s (or Mc/s).	QTG	I shall be forced to alight (or land) at . . . (position or place).	
QSO	Can you communicate with . . . direct or by relay?	I can communicate with . . . direct (or by relay through . . .).	QTH	Will you give me the present barometric pressure at sea level?	The present barometric pressure at sea level is . . . (units).
QSP	Will you relay to . . . free of charge?	I will relay to . . . free of charge.			
QSQ	Have you a doctor on board [or is . . . (name of person) on board]?	I have a doctor on board [or . . . (name of person) is on board].			
QSU	Shall I send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	Send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			
QSV	Shall I send a series of V's on this frequency [or . . . kc/s (or Mc/s)]?	Send a series of V's on this frequency [or . . . kc/s (or Mc/s)].			
QSW	Will you send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	I am going to send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			



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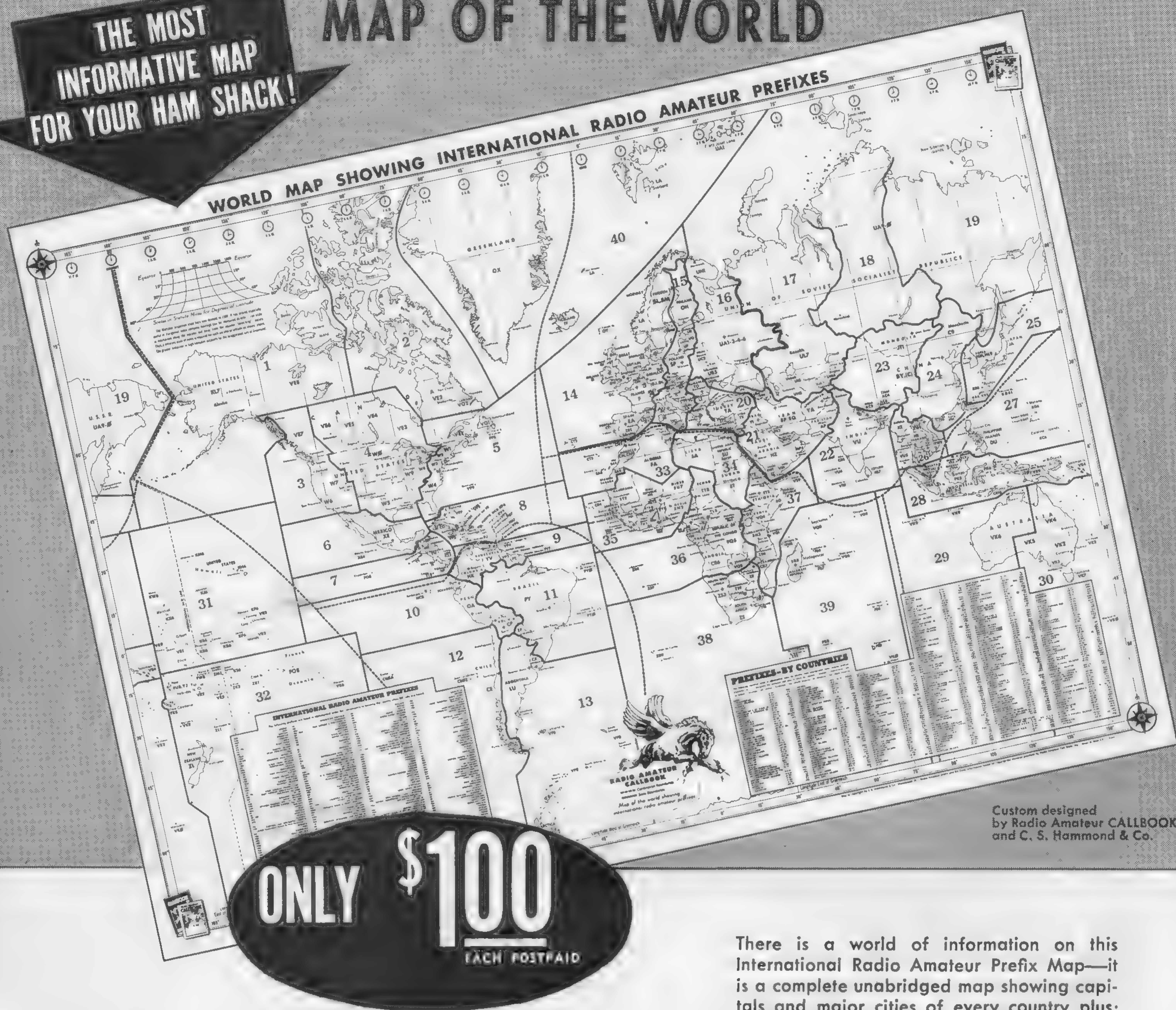
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Chicago 39, Illinois

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Radio  
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engraved solid brass, bronze or aluminum

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### for your name and call letters

At home or in the office, your engraved DESK-n-DOOR Marker identifies you with classic beauty and quiet good taste. It helps visitors—saves time—prevents errors in delivery. Its ageless design harmonizes with any setting.

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Illustrations at right are examples only; you can have any wording you want on any marker, and any metal you want on any base.

one or two lines; base 8½" x 2"  
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Brass ..... 3.95 postpaid  
Bronze ..... 4.95 postpaid

#### YOUR CHOICE OF BASE



#### "THE EXECUTIVE" DESK MARKER

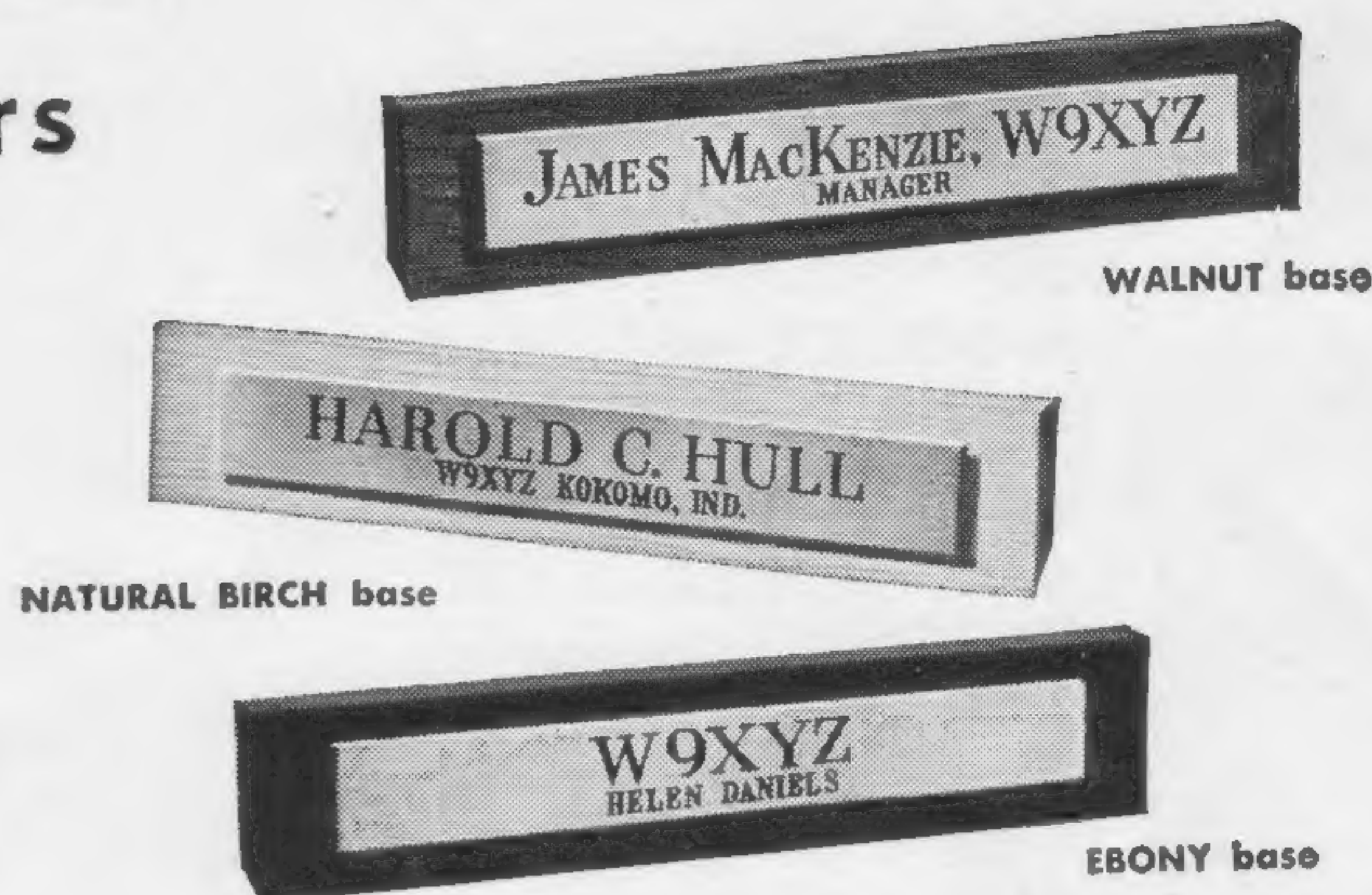
with or without Sheaffer's Desk Pen

	one or two lines	without pen	with Sheaffer's Pen
Aluminum	.....\$4.95 ppd.		\$7.95 ppd.
Brass	..... 5.95 ppd.		8.95 ppd.
Bronze	..... 6.95 ppd.		9.95 ppd.

#### YOUR CHOICE OF BASE

beauty for your own desk—  
a perfect gift for someone special!

Handsome Executive Desk Marker in your choice of bases—solid walnut, solid birch or solid hardwood with polished ebony finish. Popular Sheaffer's Cartridge Fountain Pen mounted in ball-swivel socket. Base is 8½" long, 2½" high; 1⅞" front-to-back.



- Heavy nameplates of solid brass, bronze or aluminum.
- Engraved letters, black-filled.
- Any wording up to 20 letters and numbers per line.
- Choice of bases—solid walnut, solid natural birch or polished ebony finish.

## engraved DOOR Markers

- Heavy nameplates of solid brass, bronze or aluminum.
- Engraved letters, black-filled.
- Any wording up to 20 letters and numbers per line.
- Special adhesive backing grips tight to any clean indoor or outdoor surface, including glass. No tools needed, no screws or holes to deface doors and other surfaces.
- Nameplate is 7 inches long, 1 inch wide.

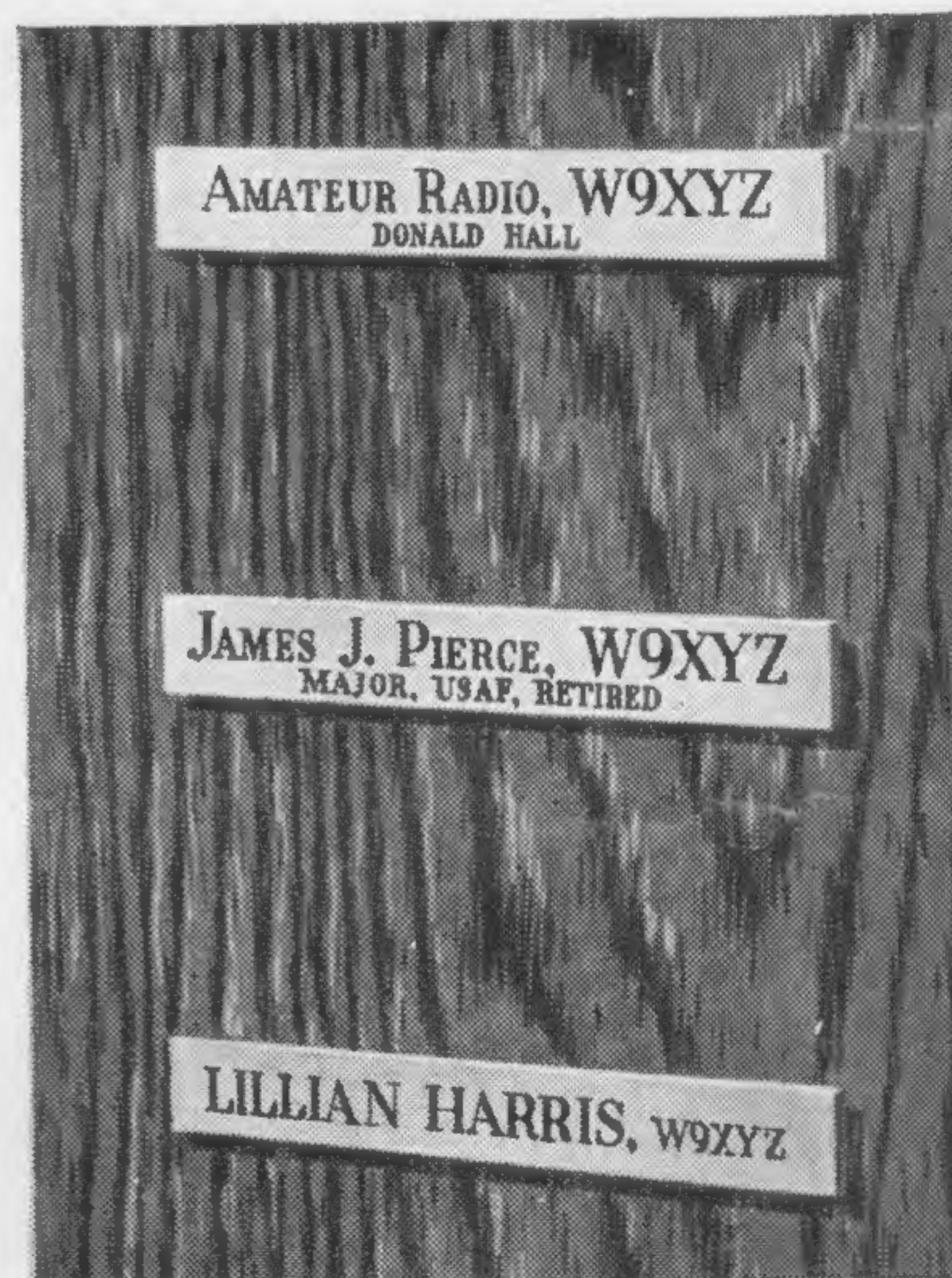


#### SPECIAL MiniMarkers

4" long, 1" wide. One or two lines.  
Up to 18 small letters per line.

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Brass ..... 2.95 postpaid  
Bronze ..... 3.95 postpaid

ANY WORDING YOU WANT ON ANY MARKER



#### ALUMINUM

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**\$1.95**  
postpaid

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**\$2.95**  
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#### BRONZE

One or two lines  
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**MAIL ORDERS  
PROMPTLY FILLED**

### Handy Order Form for Desk-n-Door Markers

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Show wording exactly as you want it to appear, including numbers, symbols and punctuation.

#### WORDING

Check  
correct  
boxes below

Check here for:

☐ GIFT CARD (No charge)

Name to appear  
on gift card \_\_\_\_\_

Total amount \$ \_\_\_\_\_

Illinois residents only add  
4 % retailers' occupational  
tax \_\_\_\_\_

Amount enclosed \$ \_\_\_\_\_

KIND OF MARKER Check one	METAL Check one	ARRANGEMENT OF LINES Check one if two-line marker	BASE FINISH Check one if Desk or Exec. Marker
<input type="checkbox"/> Desk <input type="checkbox"/> Exec. without pen <input type="checkbox"/> Exec. with pen <input type="checkbox"/> Door <input type="checkbox"/> MiniMarker	<input type="checkbox"/> Aluminum <input type="checkbox"/> Brass <input type="checkbox"/> Bronze	<input type="checkbox"/> Large letters over small <input type="checkbox"/> Small letters over large <input type="checkbox"/> Both lines small letters (We cannot put two large lines on one plate)	<input type="checkbox"/> Walnut <input type="checkbox"/> Birch <input type="checkbox"/> Ebony

SHIP TO: \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ROUTE OR ZONE \_\_\_\_\_ STATE \_\_\_\_\_

THANK YOU FOR YOUR ORDER





# Lapel Pin with clutch back.

May also be used as a tie-tac.

Item 1-G, 20K gold plated Each.....\$5.00  
Item 1-R, Rhodium plated \*F.E.T..... .50  
\$5.50



# Cuff Links



Item 2-G, 20K gold plated  
Item 2-R, Rhodium plated  
Each Pair...\$10.00  
\*F.E.T..... 1.00  
\$11.00



# Tie Bar

Item 3-G, 20K gold plated  
Item 3-R, Rhodium plated Each.....\$6.50  
\*F.E.T..... .65  
\$7.15



# Ear Rings



Item 4-G, 20K gold plated  
Item 4-R, Rhodium plated  
(Specify screw or clip type)  
Each Pair.....\$10.00  
\*F.E.T..... 1.00  
\$11.00



# Pin (with safety catch)

Item 6-G, 20K gold plated  
Item 6-R, Rhodium plated  
Each.....\$6.50  
\*F.E.T..... .65  
\$7.15

# Charm Bracelet



Item 5-G, 20K gold plated  
Item 5-R, Rhodium plated  
(Each Set.....\$8.50  
\*F.E.T..... .85  
\$9.35



# Charm (without bracelet)

Item 7-G, 20K gold plated Each.....\$6.00  
Item 7-R, Rhodium plated \*F.E.T..... .60  
\$6.60

## The Legend of Pegasus..

Most of us have heard or read about the famous winged horse of Greek mythology that appeared through magic. Flying across the heavens, hoofs flashing, Pegasus brought the thunder and lightning. Of course this is a myth but

Pegasus lives on . . . . . in the spirit of adventure—and where could we find more adventure than in the magic of radio, circling the globe extending friendship to everyone. For this reason we have adopted Pegasus from the cover of the CALLBOOK (by permission) to portray in our design the symbol of adventure in amateur radio.

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Designed and personalized especially for radio amateurs by the finest craftsmen available . . . of heirloom quality—our Radio Amateur Emblem jewelry will please the most discriminating.

Available in either 20K gold plate or rhodium plate (non-tarnishing silver-like finish) and inlaid in black to enhance the fine detail of design. The item you select will be engraved with the call letters you specify. Quality and workmanship guaranteed.

An additional feature is the “if found” legend inscribed on the reverse side of each piece.

Radio Amateur Emblem jewelry—a truly distinctive gift to give or receive.

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Name \_\_\_\_\_

Address \_\_\_\_\_

Street RFD P.O. Box No. \_\_\_\_\_

Town or City Zone State \_\_\_\_\_

Total Amount \$ \_\_\_\_\_

Illinois residents only add 4% retailers' occupational tax \_\_\_\_\_

Amount enclosed \$ \_\_\_\_\_



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**GREAT CIRCLE OUTLINE CHART OF THE UNITED STATES**—determine the great circle bearing between any two points in the United States, with this map.

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**ARRL SECTION MAP**—of the U. S. Check off the sections worked during ARRL contests.

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**GREAT CIRCLE BEARINGS IN THE UNITED STATES**—between 39 large cities in the U.S.A.—a valuable aid for VHF work as well as handling traffic through QRM.

**GREAT CIRCLE BEARINGS TO WORLD WIDE METROPOLITAN AREAS**—exact bearings to the nearest degree, from 39 cities in the U.S.A. to 39 metropolitan areas throughout the world.

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**TIME THROUGHOUT THE WORLD**—time zones of most countries. Explains the International Time Zone System.

**AIR LINE DISTANCES IN THE UNITED STATES**—arranged in alphabetical order between 39 cities of the United States.

**INTERNATIONAL Q SIGNALS**—for instant reference.

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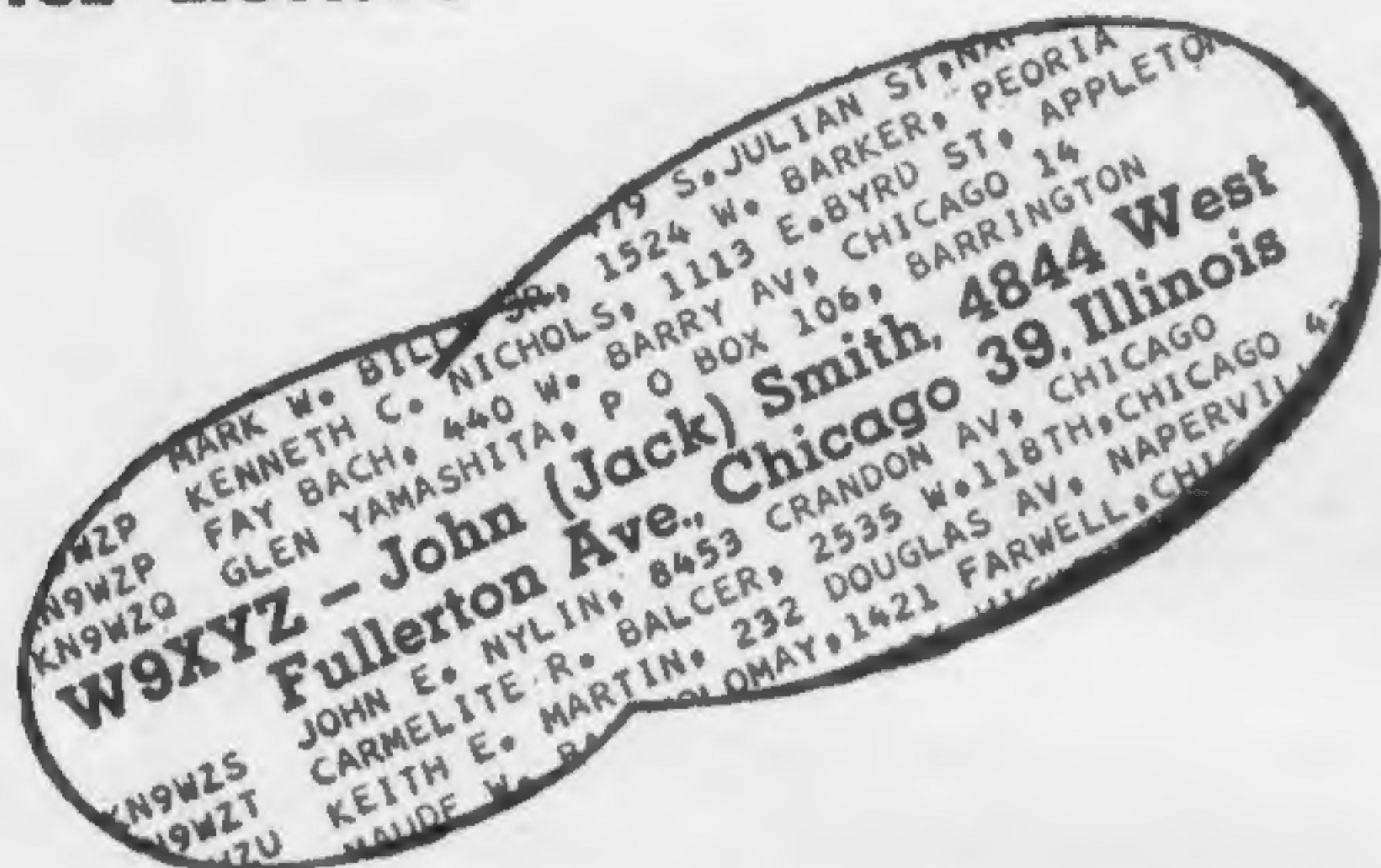
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**DX CONTEST AND FIELD DAY LOG**—can be used either for a DX contest or the annual ARRL field day.

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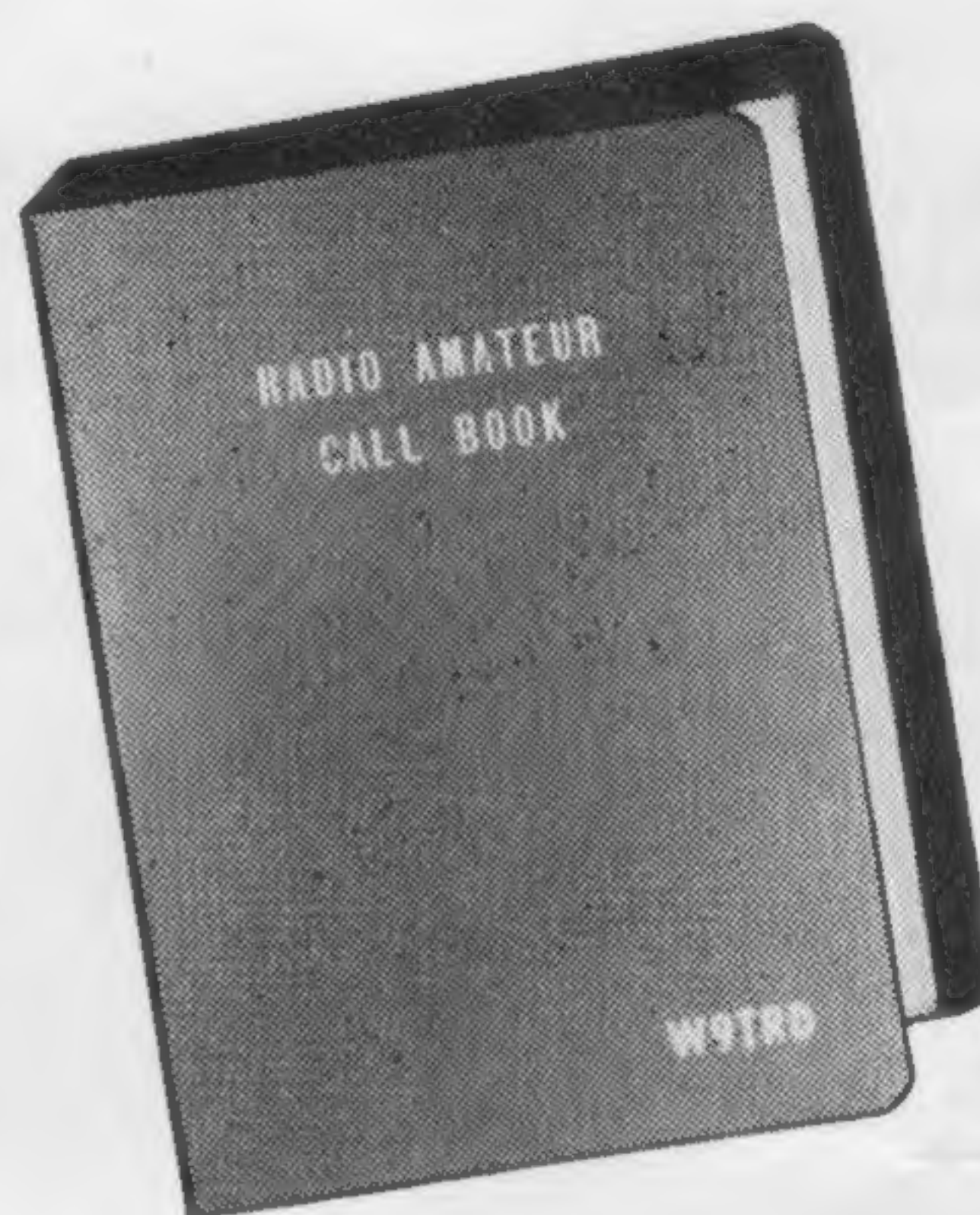
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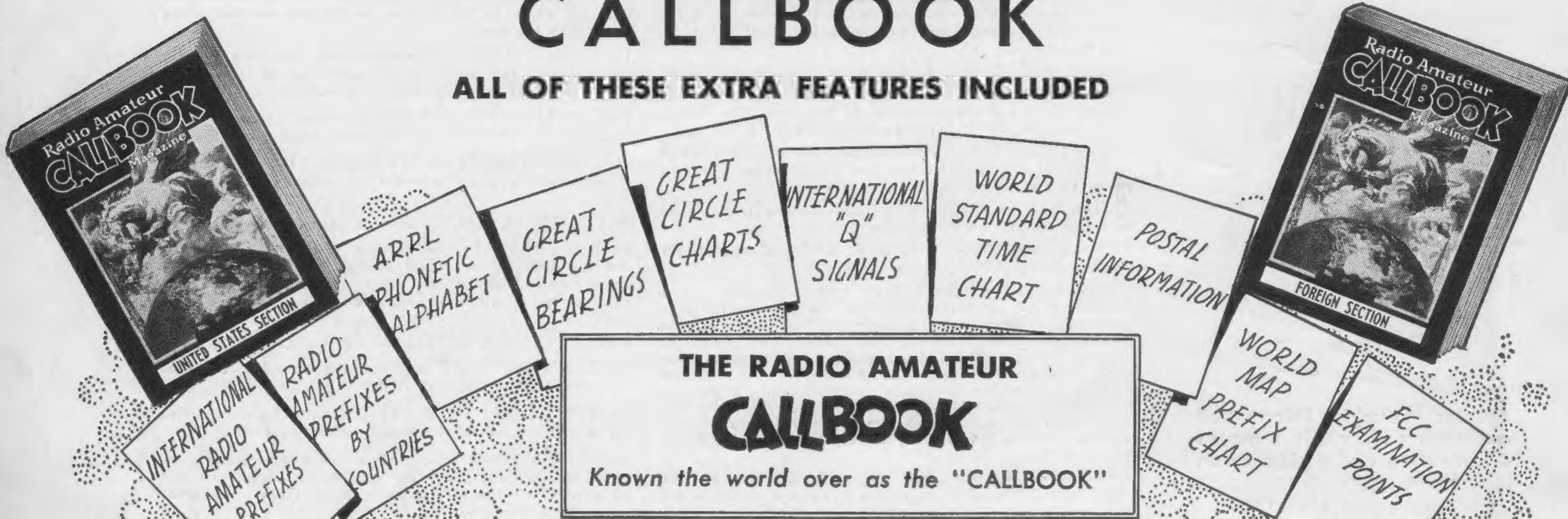
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( ) Fall	( ) Fall	( ) Fall	( ) Fall
( ) Winter	( ) Winter	( ) Winter	( ) Winter

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( ) Summer	( ) Summer	( ) Summer	( ) Summer
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( ) Winter	( ) Winter	( ) Winter	( ) Winter

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